UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

United States.

COAL MINE SAFETY INSPECTION MANUAL FOR UNDERGROUND MINES

DECEMBER 1971

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PREFACE

The ultimate objective of the Bureau's coal mine inspection activities is to attain a "completely safe and healthful working environment for the miners". Inspectors work toward achievement of this objective in two ways. First, and more important, is vigorous enforcement of the Federal Coal Mine Health and Safety Act of 1969. The second way is to persuade management and labor that safety is in their best interest and that their responsibility is to practice it constantly and with such diligence that safe work habits and proper reactions to unsafe conditions would eventually become automatic.

An inspector can best achieve these goals by maintaining an attitude of friendliness and firmness in all contacts with labor and management. Such an attitude expresses both an authority vested in the inspector by the Act and his own conviction that high safety standards benefit all concerned. For, as inspectors have often noted, good safety practices are frequently associated with operational efficiency and high productivity. The attitudes and habits that make a mine safe affect all its operations.

The accident record of the industry from both the disabling injury and fatality standpoint makes it clear that there can be no complacency. Every thought and action must be directed toward observing, emphasizing, and eliminating accident-making practices and conditions.

The Federal inspector must conduct all his dealings with the public thoroughly, honestly, and impartially.

INTRODUCTION

This Coal Mine Inspection Manual is intended to serve two primary purposes: First, to provide Federal coal mine inspection personnel with definite guidelines that will aid them in conducting inspections and investigations in accordance with the Federal Coal Mine Health and Safety Act of 1969, in preparation of reports thereon, and in applying the provisions of the Act and applicable Federal Registers in a proper and uniform manner; and second, to acquaint the coal mining industry, State inspection agencies, Federal agencies, and other interested persons and agencies with the administration of the Act by providing them with copies of these guidelines.

PROCEDURES

Preparation for Inspection--Equipment and Supplies

The equipment and supplies generally required for a safety inspection are:

Permissible methane detector
Permissible flame safety lamp, fuel, magnet and other servicing equipment
Roof-testing device

Roof-bolt finishing bit gage
Anemometer, watch, measuring tape, measuring rule, smoke tubes and aspirating bulb
Permissible electric cap lamp
Lamp belt with attached identification check
Feeler gages
Protective hat
Safety shoes or boots and knee pads
Eye protection
Dust respirator
Self-rescuer
Notebook, pencil, ballpoint pen
Proper identification card and identification check
Shipping boxes, labels, gummed tape
Dust collecting equipment *
Containers for mine-dust samples *
Dust-sample cards *
Copies of Federal Coal Mine Health and Safety Act of 1969, applicable Federal Registers, and the Coal Mine Safety Inspection Manual for Underground Mines
Forms for Notices and Orders
Bottles for air samples
Mimeographed sheet for list of air samples
Blue air-sample cards
Form for new mine, reopened mine, change of ownership, abandonment
Belt speed indicator (available at field offices)
Torque wrench (available at field offices)

Inspection Schedules

Regular inspection of entire mine

Each underground mine and its surface facilities shall be inspected at least four times a year to determine whether an imminent danger exists and whether or not there is compliance with the mandatory health and safety standards.

Spot inspection of all or part of mine

(a) A minimum of one spot inspection shall be made during every five working days at irregular intervals in each underground mine, all or part of which meets any one of the criteria set forth in Section 103(i)

(b) A spot inspection of each underground mine not identified under Section 103(i) shall be made at least once each four months.

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* Bituminous coal and lignite mines

Inspection of new underground mines

Each new drift mine shall be inspected promptly after the first air connection has been made, unless otherwise specified by the coal mine Health and Safety District or Subdistrict Manager. Shafts and Slopes are mentioned elsewhere in this Manual. On the first visit, the inspector shall make certain that the mine operator has copies of the Federal Coal Mine Health and Safety Act of 1969 and applicable Federal Registers.

Inspection of abandoned or inactive mines before mining operations commence

When a mine has been abandoned or declared inactive by the operator, an inspection of the entire mine shall be made in accordance with Section 303(x) of the Act before mining operations are resumed.

All unsafe conditions observed during such inspection shall be discussed with the mine operator and recorded in an informational memorandum report to the Coal Mine Health and Safety District or Subdistrict Manager. An inspection shall be made as soon as possible after mining operations commence, and in the event the unsafe conditions were not corrected, appropriate Notices and/or Orders shall be issued.

Accident investigations at a mine not previously inspected

When an inspector investigates an accident at a mine that has not been inspected, he shall inspect the mine as soon as possible thereafter. In such instances, the accident investigation report shall indicate that a regular inspection of the mine was made on _____(date)_____ or will be made promptly.

Inspection of new shafts and slopes

New shafts and slopes being driven as part of an active coal mine shall be inspected as part of such mine. New shafts and slopes that are intended for use as openings of a new mine shall be inspected (spot) at least once each month until completed.

Frequency of inspections of escapeways and escape facilities

Section escapeways in each mine shall be inspected during each regular inspection. The main escapeways in each mine shall be inspected during the first regular inspection of the year. Escape facilities in shafts, such as hoists or elevators, shall be inspected during each regular inspection, and the inspector shall observe at least one complete cycle of operation of such hoisting equipment.

Section 301(c) Petition

Petitions made by the operator or the representative of miners pursuant to Section 301(c) should be directed to the Office--Board of Hearings and Appeals, Ballston Tower #3, 4015 Wilson Blvd., Arlington, Virginia 22203.

No advance notice of inspection

Advance notice shall not be given to any person when an inspection is to be made. However, at the commencement of an inspection, the inspector shall advise the representative of the miners thereof, as provided in Section 103(h).

Special inspection requested by representative of the miners

If a representative of coal miners, such as a Safety Coordinator or member of the Mine Safety Committee, requests in writing a special inspection because he has reasonable grounds to believe a violation of a mandatory safety standard or imminent danger exists in a coal mine, such requests should be complied with promptly. A copy of such request shall be provided to the operator or his agent no later than at the time of inspection, and upon the request of the person making such request, his name and the names of individual miners referred to in the request, shall not be given.

Requests for such special inspections may be handled by the inspector who is notified of the danger; however, he shall, whenever possible, contact his immediate supervisor before he makes the inspection. After the inspection is completed, a memorandum containing the name of the complainant, local union number, name and address of the recording secretary, dangers mentioned in the complaint, date notified, date investigated, observations made during the investigation, and the action taken to correct any observed dangers shall be forwarded to the Coal Mine Health and Safety District or Subdistrict Manager of the area involved. The above information is necessary to prepare a formal answer to the representative of the miners and a letter report of the complaint to the Washington office.

Inspection of idle mines

Reportedly some small mines cease production when an inspector arrives to avoid inspection and thus hinder enforcement of the Act.

Normally an inspection would not be made when the mine is idle except to perform such activities as making rock dust surveys, traveling escapeways and aircourses or similar activities which would be the same whether or not the mine is working.

Section 103(a) of the Act provides for inspections of mines and Subsection (b) provides for the right of entry of an authorized representative, therefore we have two alternatives:

(a) The inspector shall enter the mine and conduct a limited investigation where conditions are the same as on working days or (b) The inspector shall appear at the mine on several consecutive days forcing the operator to

submit to an inspection or remain idle for a long period.

Labor disputes--inspection during

The inspector shall not make an inspection of a mine when the mine is idle because of a dispute between management and labor, unless he is specifically requested to do so by his supervisor.

In any controversy between labor and management, which involves contract matters other than safety, the inspector shall decline to give an opinion.

Right of entry

Any authorized representative of the Secretary of the Interior shall have the right of entry to, upon, or through any coal mine for the purpose of making any inspection or investigation under the Act.

In the event an authorized representative is denied such right of entry, he shall not attempt to enter the mine or related facility and shall report the matter to his supervisor. The Coal Mine Health and Safety District or Subdistrict Manager shall promptly notify the Assistant Director--Coal Mine Health and Safety of such occurrence.

Company responsibility release

An inspector shall not sign a form releasing the company from responsibility for accidents when performing his assigned duties.

Reviewing mine file prior to inspection

Prior to starting an inspection at any mine, the inspector shall make certain that he is familiar with all Notices or Orders issued at the mine that have not been terminated or abated. Safeguard Notices that were issued during previous inspections shall be reviewed. A record of standing Notices, Orders, and previously issued Safeguard Notices for each mine should be available to the inspector at his headquarters office.

Salient parts of a regular inspection

Generally, the underground portion of a mine shall be inspected before the surface facilities are inspected. Before going underground, the inspector shall examine the various plans, such as mining projections, ventilation, and roof control, and the record books required to be maintained by the Act and regulations. A thorough study of the mine map shall be made, including mining in close proximity to abandoned workings, a check for oil and gas wells, fuel transmission lines, and mining above or near

underground gas-storage pools. The possibility of surface water presenting underground flood hazards shall be investigated and, in stripping areas, any danger stripping may present to underground mining shall be checked.

The inspector is required to inspect every working place in the mine, all active haulageways, entrances to abandoned workings, accessible old workings, aircourses, escapeways, other places where men work or travel, electric equipment and installations, haulage facilities including hoisting equipment, first-aid equipment, ventilation facilities, communication installations, roof and rib conditions, blasting practices, fire hazards, and fire control equipment. Also, he is required to test for the presence of methane and for oxygen deficiency, to collect samples of mine air for analysis to determine the quality of the air with respect to noxious or explosive gases and oxygen content, and mine dusts for analysis to determine the incombustible content. Where facilities are adequate, the inspector shall ride ingoing and outgoing mantrips.

The inspector shall <u>not</u> search anyone for matches, lighters, or smoking materials.

The inspector shall keep sufficient, accurate notes which will be useful in conducting the post-inspection conference, preparing the inspection report, and, for use at public hearings, appeals, and court cases.

Inspection procedure

The inspector should check the section for imminent dangers before he examines equipment or observes the various cycles of operations. The inspector shall observe each cycle of operation, such as cutting, loading, and bolting, in each section he examines.

Work practices on all shifts shall be observed to the extent necessary to determine the general attitude of supervisors and workmen toward health and safety. If inspections on the second or third shift reveal that conditions and practices are virtually the same as observed on the first shift, it may not be necessary to inspect some areas more than once during the regular inspection of the entire mine.

In areas that are worked one shift only or where certain operations, such as cutting or blasting, are done on one shift and loading on another, such areas shall be inspected at least once during each operation. In small mines where some operations, such as blasting, might be done only once in several days, the supervisor shall determine when such operations shall be observed.

Inspectors to comply with regulations

Inspectors shall not perform any work other than inspection work. Inspectors are obligated to comply with all Federal, State, and company safety regulations, except where such regulations prohibit the inspector from performing his duties.

Travel within the mine

The inspector shall not travel anywhere in a mine where his permissible flame safety lamp will not burn, except in case of an emergency and then only if properly protected.

Shaft escapeways

When examining emergency escapeway shafts equipped with ladders or stairways, the inspector shall travel from the bottom to the top, so that it will be possible to examine steps, supports, and platforms before placing any weight on them.

Temporary interruption of inspection

If a regular or special inspection of a mine is interrupted temporarily for any reason, the mine operator should be notified as a matter of courtesy before the shift begins.

Crossing a danger board

An inspector has the right to cross a danger board in the performance of his duties, but should do so with prudence.

Measurements to establish violations

Measurements that are to be used to establish violations of the Act shall be taken with a standard measuring tape or rule, except in large areas that cannot readily be measured. This is not intended to prohibit scaling distances on an accurate map when applicable.

Elimination of dangers

During each inspection and at the post-inspection conference at the close of each inspection, inspectors must make every effort to obtain assurance that a safe working environment will be maintained free from any condition or practice which could reasonably be expected to cause death or serious physical harm.

Recognizing that a safe operation is an efficient operation, the inspector, whenever an opportunity is presented, shall offer assistance in improving operating methods with a view toward greater safety and efficiency.

The experience afforded Federal inspectors in the course of their employment in the Bureau of Mines should make them proficient in all phases of accident and disaster prevention, and it is expected that they should be of substantial assistance to the industry in developing and maintaining safer mining conditions beyond the mere requirements of the Act.

Post-inspection conference

The inspector shall arrange in advance for a conference of responsible management and labor representatives at the close of each regular inspection for the purpose of discussing his findings, actions, and requirements. It is preferable to have the full committee in the conference; however, when a joint conference is not feasible, the inspector shall confer with each party separately.

Air samples

Tests for methane shall be made in open workings, and samples of the mine atmosphere shall be collected to substantiate any findings that indicate violations of the Act.

Air samples shall be collected in the immediate return of each active section and in the split and main return air courses to determine the liberation of methane.

Tests for methane made or air samples collected under Section 303(h)(2) of the Act shall be made or collected at a point not less than twelve inches from the roof, face, or rib. Tests or sampling performed under other sections of the Act or for other purposes shall be made or collected at a point that will be representative of the area.

Air measurements

Air measurements shall be made as necessary to determine compliance with the Act, and in return air courses for use in calculating the liberation of methane.

When making air measurements, a traverse reading of the cross section that is measured shall be taken; otherwise, the velocity and calculated volume will be in error according to where the anemometer is placed (as much as 20 percent too high in the case of center readings). Anemometers of the type used read slightly fast above 400 to 500 feet per minute and increasingly slow at lower velocities, on the order of 5 percent at 300, 10 percent at 200, and 20 percent at 100 feet per minute, and the anemometer correction charts shall be used. Below 100 feet per minute, anemometer readings are unreliable and a small smoke cloud from a smoke tube should be used. These facts shall be remembered when citing violations for volumes less than 9,000 cubic feet a minute.

Air sample cards

A blue card (Mine Atmosphere Sample Record) shall be filled in for each air sample. Each card shall be filled in completely, both top and bottom parts. The blue cards shall show the same location for the mine as used in the title of the report. Face, return, sealed area, sealed fire area, or other such designation, shall be stated for "kind of sample." The location in the mine shall be shown on the next line, and individual area locations shall not be repeated. "Date and hour sampled" and the air quantity in c.f.m. (or indicate "still") shall be given. For the notation "pressure on seal," inches water gage, positive or negative when available, shall be given for ordinary seals. Barometric pressure (inside the mine) shall be given for fire seals. For "estimated methane" the percent shall be shown as indicated by a methane detector. It shall be shown if over or under two percent, or for higher percentages, if explosive or possibly explosive. For "analysis desired," state "Regular" for routine samples, and the laboratory will report CO_2, O_2, Ch_4, and N_2. If CO, H_2, or other special constituents are desired, the chemical symbols should be indicated. CO and H_2 can be determined from samples in ordinary containers, but ordinary sample containers cannot be used for SO_2, H_2S, oxides of nitrogen, or aldehydes.

Special air samples

When special samples are collected in connection with a problem arising at a mine, laboratory personnel shall be informed of the problem involved,

the sampling procedure followed, analyses desired, and purposes for which the samples were taken. This is necessary so that the laboratory personnel are fully informed of the problem and can have information on special samples readily available.

After the blue cards have been filled in completely, for special samples a conspicuous red "S" shall be marked in the upper left corner. When such samples are received in the laboratory, they will be given preference over other samples and the analytical results will be telegraphed or teletyped to the proper office. It will be the responsibility of the Coal Mine Health and Safety District or Subdistrict Manager to have the results transmitted to the inspector promptly after receipt. The information in telegrams and teletypes, if possible, shall be recorded straight across the page in the following order: (a) Inspector's last name, (b) bottle No., (c) carbon dioxide, (d) oxygen, (e) methane, (f) carbon monoxide, (g) nitrogen, (h) mine name, thus:

Smith, C5518, 0.16, 18.97, 2.90, ND, 77.97, Bell No. 4

The abbreviation ND, meaning "not determined," will be used when it is not necessary to make a CO determination. In order to make it relatively easy to identify and segregate the boxes containing special samples, the inspector shall turn the box strap a half turn at the top edge of the front of the box before inserting the strap in the buckle.

Regulations do not prohibit analyzing samples collected by persons not employed by the Bureau, but the practice shall be kept to a minimum. When convenient or expedient for the Bureau to have mining companies or State representatives collect air samples, a memorandum shall be sent to the laboratory identifying the collector and the reason for such collection. Samples will not be analyzed until such information is received. The collecting agent shall be properly instructed on the sampling method, filling in the necessary information on the sample card, and packing and mailing procedures. The sample cards must indicate a Bureau representative to whom the analytical results are to be sent.

Mailing air samples

Each double box sent to the laboratory shall contain two air-sample bottles, even if one has not been used. A list of samples on the regular form is required to be sent to the laboratory, but only one list is needed to cover all samples collected during one inspection. If the list is not sent to the laboratory, the analysis will be held up for 10 days. A record of the bottle numbers shall be kept in a notebook.

The mailing of samples shall be in accordance with postal regulations.

The following information shall be recorded on the bottle label after the sample is collected:

a. Collector
b. Bottle No.
c. Mine, Company, State
d. Date
e. Hour
f. Location

Collection of dust samples to determine the incombustible content. The usual samples of mixed dust should be collected by the band or perimeter method. All dust from a 6-inch strip should be collected completely around the perimeter of the entry or room, including a 1-inch depth of the material on the floor. Dust from the roof, rib, and floor should be combined into one "band" sample. If the amount so collected is more than required, the sample should be mixed throughly, coned, and quartered to cut the bulk to the desired amount. Occasionally, it may be necessary to take more than one strip, but in such case the total width of the strip must be the same for the roof, each rib, and floor. The plastic bag shall be filled for at least half the length of the bag. Separate samples of dust from either the roof, ribs, or floor may be collected when deemed necessary.

Where the coalbeds are so thick that it is impractical and unsafe to collect full perimeter samples, the inspector shall collect a floor sample (of the usual 1-inch thickness) and a sample from the ribs to the maximum height at which this can be done safely and practicably. The rib sample and the floor sample may be either combined or prepared separately. When rib samples are collected and reported separately, the incombustible content of the rib sample may, without undue sacrifice of safety, be assumed to represent the incombustible on the entire rib and roof surface at the sampling locations.

Rock-dust surveys (See sketch for Rock Dust Surveys). To obtain data to form conclusions regarding adequacy or inadequacy of rock dusting in a mine, the following sampling is required in addition to spot-location sampling: During each regular inspection, uniform rock-dust surveys shall be made in each advancing section; samples shall be identified as shown on the Sketch for Rock Dust Surveys; the first line of samples A-1, B-1, C-1, D-1, and E-1 are zero points and are 15 feet inby the reference point, which is the centerline of the right aircourse of main west; the other lines of sampling are at 200, 400, 600, and 800 feet inby the zero point; the collection of dust samples shall include a representative number of crosscuts; where possible, the maximum interval between sample locations shall be not more than 2 or 3 crosscuts; and the survey number shall precede the sample number when two or more surveys are made. (See instructions on Dust Sampling Report.)

The normal sampling-point designation for a particular point cannot be used at some other point. For example, if there was a roof fall, bad roof, or the place was too wet to sample at D-2, the designation D-2 would appear on the sampling report with the proper statement under "Location in mine." (See sketch.) If the sampling point is less than 40 feet from the face, a sample shall not be taken.

The starting point from the face for such surveys shall be determined by the inspector, and that point must be tied into something relatively permanent, such as an intersection, a survey station, a pump room, or

a borehole. To say that a sample was collected a certain distance from a working face is meaningless. The sampling area must be well described and tied down firmly so it can be located on the mine map by either the operator or another inspector.

Spot-location samples shall be numbered consecutively with numbers only, that is, without the use of letters since letters are to be used in designating the dust-survey samples. The spot-location samples and dust survey samples must be listed on separate sample cards but may be sent to the laboratory in the same box.

Red and blue plastic bags shall be used only for uniform rock-dusting survey samples. The dust samples collected at spot locations in other areas of the mine shall be shipped in uncolored bags. Blue rock-dust sample bags shall be used for rock-dust samples collected in return air courses. The use of bags of different colors for the different types of samples will facilitate the separation and identification of the samples in the laboratory.

Use of plastic bags. The following procedures shall be followed in using plastic bags:

1. The identifying tags are blank and each inspector will use his own numbering system on the face of the tag with his name and the name of the mine on the back. The samples for any one inspection shall be numbered or coded consecutively, and the numbers or code used shall not exceed three digits, as it is desirable to make them of a size easy to read. The inspector may start with No. 1, each inspection, or mark his samples A, B, C, etc., if he so desires. The inspector should be certain that the identification is legible.

2. The bags are of sufficient length to permit tying a knot in the open ends when they contain the average size samples, and the string of the tag shall be tied within the formed knot of the sample bag in a secure manner at the time the sample is collected. The laboratory requires the inspector's name, the name of the mine, the properly numbered tag attached firmly to the sample, and a completely filled-in sampling card.

If the mine name is clearly printed on the A-1 sample tag and about every 10th bag thereafter on the survey samples, it will be sufficient for the laboratory's needs.

Dust sampling report card. A sample shall represent the area sampled, not a spot. Separate dust sampling report cards are required for spot-location and survey samples. For "Analysis desired" the word "incombustible" is sufficient. Do not put the sample Nos. in the column for "Lab. No." For "Sample of" the word "band" is acceptable for a sample representing the full perimeter at the point of sampling.

Where dust samples have been collected at spot-locations in return airways, parallel, track or belt entries; the words "return airway," "parallel entry," "track entry," or "belt entry" in parentheses, as applicable, shall follow the location of each sample on the card forwarded with the samples for analysis.

Sampling report cards shall be typed or filled in by printing with a pen. The length of description of the sampling point in the mine shall be kept to the absolute minimum. All samples submitted without the collector's name and office address will be analyzed and reports held until this information is received.

Mailing samples. The samples shall be mailed as soon as possible in accordance with postal regulations. Shipping boxes shall be securely sealed to prevent loss of samples in transit. Cellulose adhesive (scotch) tape shall not be used for sealing boxes. The return address shall be recorded on the shipping box.

The regular corrugated pasteboard cartons may be used, but voids around the bags shall be filled with crumpled newspaper to keep the bags from breaking open from rough handling. Crumpled manila envelopes, excelsior, paper towels, or tissues from the wastebasket shall not be used as packing.

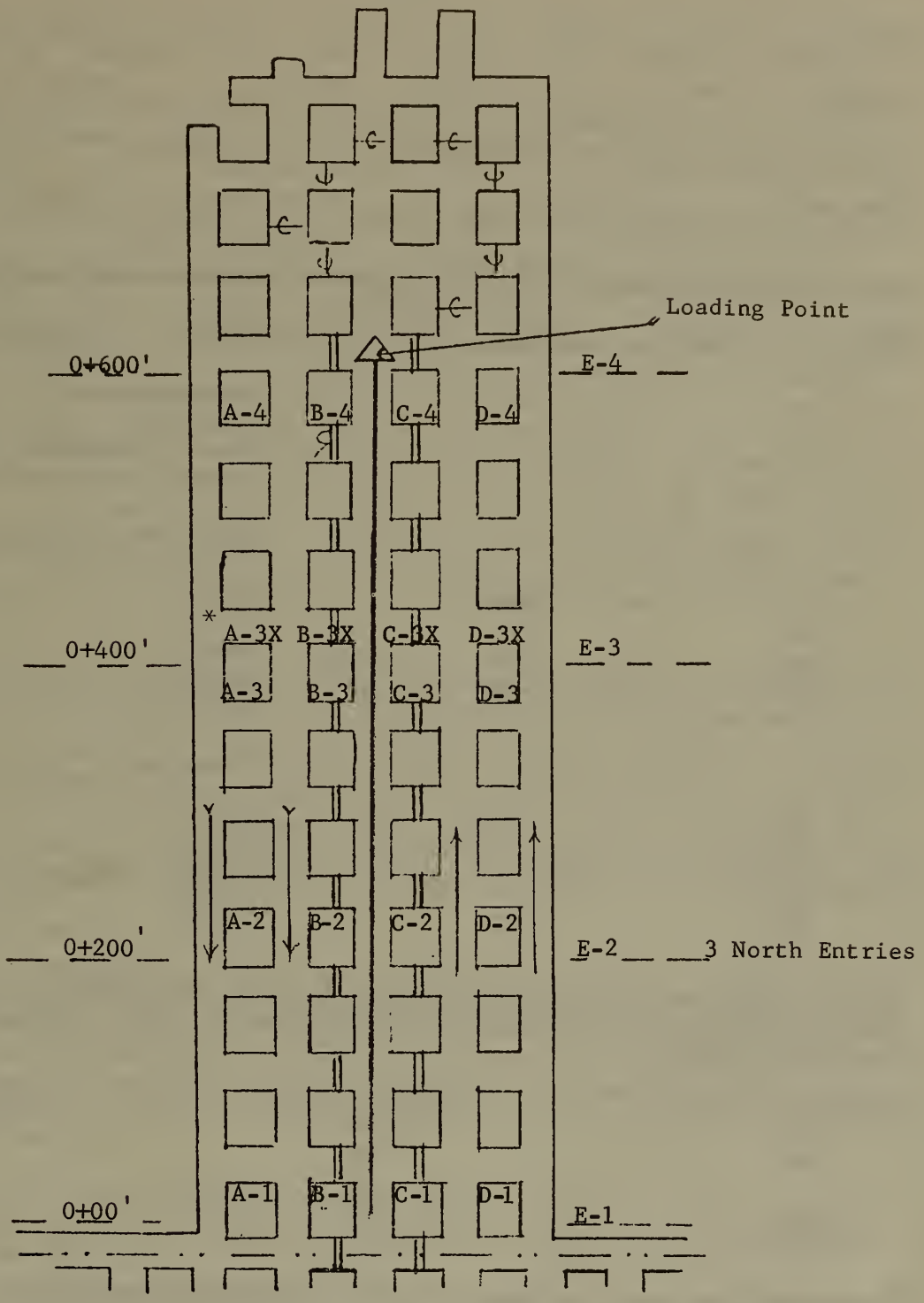
Volumeter analysis of dust samples. The dust laboratory will use the volumeter method for analyzing and reporting the contents of all dust samples received; except that samples collected that indicate an incombustible content ranging between the allowable limit and ten percent below the allowable limit by the volumeter method will be analyzed chemically also, and the chemical analysis on these will be given in the analytical reports.

Analysis of air or dust samples. When the analyses of mine air samples taken to determine gas contents or oxygen deficiency or of dust samples taken to determine the incombustible content disclose a violation of the Act, the following procedure shall be followed:

(a) If the analysis of an air sample discloses a violation of the Act not determined with testing instruments during the inspection, the inspector shall cite a violation in a Notice on Form 104(b) and follow with an Order if the violation is not abated in the time fixed or extended.

(b) If more than ten percent of the dust samples collected in a dust survey of a particular area or section are substandard, as shown by chemical analysis, the inspector shall cite a violation in a Notice of Form 104(b) and follow with an Order if the violation is not abated in the time fixed or extended.

SKETCH FOR ROCK DUST SURVEY



Main West Entries

* Where crosscut samples are collected, they shall be designated as shown.

Spot-Location
Survey Samples

DUST SAMPLING REPORT

State _____ County _____ Town _____

Operator _____ Mine _____

Coal Bed _____ Date of sampling _____ Analysis desired _____

Collector _____ Office _____

Lab. No.	Bag No.	Sample of (roof, rib, floor, or band)	Location in mine
			Sampling area = 3 N. off main west Zero - Centerline of main west, right aircourse + 15'
			Entry No. *
A-1		Band	0+00
A-2		do	0+200'
A-3		do	0+400'
A3X		do	0+430'
A-4		do	0+600'
			Entry No. **
B-1		do	0+00
B-2		do	0+200'
B-3			0+400' Bad top - No sample
B3X		do	0+430'
B-4			0+600' Too wet - No sample

Where surveys are made in more than one section, the samples in each survey shall be numbered as shown below with each sample letter being preceded by the survey number.

Survey No. 1	Survey No. 2	Survey No. 3
1A1	2A1	3A1
1A2	2A2	3A2
1B1	2B1	3B1
1B2	2B2	3B2

Where only one survey is made in a mine, numerals preceding the sample letter are unnecessary.

* The Entry No. shall be the identity assigned by management, whether figure or letter.

** Return airways entry numbers shall be identified.

Procedure to be followed in testifying at a hearing or trial. If an employee of the Bureau of Mines is merely requested to appear at a hearing or trial to testify as to events or to produce and identify records pertaining to the business of the Government, he shall advise the party making the request to submit a written request to the Director, supported by a written statement as provided in Section 2.20, Title 43, Code of Federal Regulations. If, however, an employee of the Bureau is subpoenaed to appear, in such instance, he must put in his appearance at the trial. He shall, however, respectfully decline to testify, pending receipt of instructions from the Director or Secretary of the Interior, as the case may be, calling the Court's attention to the regulations hereinafter set forth. In all instances where a Bureau employee is asked to testify in his official capacity on behalf of a private party, the Bureau would prefer to have him do so under a subpoena rather than upon request. This is to avoid giving the impression that the Bureau of Mines has taken sides in the litigation. In any event, the Director shall be promptly advised, giving the details as to the names of the parties involved, the person asking for the testimony, the nature of testimony desired, the name and location of the Court, and the nature of the litigation. When permission to testify on behalf of a private party has been given, the testimony shall be limited to factual evidence as distinguished from expert opinion testimony. This means that the employee shall testify only to the facts that he himself has observed. He shall not give his opinion based upon any facts, actual or hypothetical. If asked to give such opinion, he shall claim a privilege and respectfully decline to answer the question.

An officer or employee of the Department shall not testify in any judicial or administrative proceeding concerning matters related to the business of the Government without the permission of the head of the Bureau or his designee,or of the Secretary of the Interior or his designee. If the head of a Bureau or his designee concludes that permission should be withheld, he shall report the matter immediately to the Solicitor for a determination, and the officer or employee shall appear in answer to process and respectfully decline to testify, pending the receipt of instructions from the Secretary.on the ground that testimony is prohibited by the regulations in this part.

Any person (including a public agency) wishing an officer or employee of the Department to testify in a judicial or adminstrative proceeding concerning a matter related to the business of the Government may be required to submit a statement setting forth the interest of the litigant and the information with respect to which the testimony of the officer or employee of the Department is desired before permission to testify will be granted under this section.

The Solicitor of the Department of the Interior and the Deputy Solicitor may exercise all of the authority of the Secretary of the Interior under this section.*

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* "Code of Federal Regulations Title 43 - Public Lands: Interior Subtitle A Office of the Secretary of the Interior Part 2 - Records and Testimony. 2.6 Testimony of Employees."

Introduction

The material presented in this part of the Manual covers the mandatory provisions and mandatory supplemental regulations that have been published in the Federal Register.

It is important to note that the supplemental regulations are mandatory, and require the issuance of Notices and Orders for noncompliance therewith.

The mandatory provisions shall be used when conducting safety inspections of underground coal mines; however, any noncompliance permit issued by the Interim Compliance Panel shall be recognized and accepted by the inspector in citing violations of the Act.

Procedures for citing violations of the mandatory provisions shall be as follows:

1. Federal Register section designations shall be used as a basis for identifying cited violations.

2. The parts of the regulations which are criteria in which the verb "should" is used in Sections 75.200, 75.300, 75.316, 75.1403, and 75.1704 shall not under any circumstances be cited as the basis for a Notice of Violation.

3. Violations cited because a roof control plan has not been approved or because an approved roof control plan is not followed shall be cited as a violation of Section 75.200 of the regulations. Where an approved plan is not followed, the Notice shall include a statement describing the part of the plan that is not followed without reference to the criteria.

4. Violations cited because a ventilation plan has not been submitted or because an approved ventilation plan is not followed shall be cited as a violation of Section 75.316 of the regulations. Where an approved plan is not followed, the Notice of Violation shall include a statement describing the part of the plan that is not followed.

5. Conditions cited because of "improper fan installations" shall be cited as a violation of Section 75.300 only after a Safeguard Notice has been issued and the time fixed has expired. The Safeguard shall specify the measures that shall be required and the subsequent Notice of Violation shall do the same. It is imperative that the subsequent Notice of Violation be referenced to the Safeguard after which it was issued.

6. Conditions cited because of inadequate "other safeguards" in 75.1403 shall be cited as a violation of Section 75.1403 only after a Safeguard Notice has been issued as described pursuant to 75.1403-1 and the time

fixed has expired. The Safeguard Notice shall specify the safeguard that shall be required for "other safeguards," and the subsequent Notice of Violation shall do the same. It is imperative that the subsequent Notice of Violation be referenced to the Safeguard Notice after which it was issued.

7. Requirements other than those published as criteria in 75.1403 may be required when needed in the judgment of an inspector or District or Subdistrict Manager and a subsequent Notice of Violation is to be issued for the requirement if the condition or practice is not corrected within the time specified.

8. Where a violation exists because of a lack of technology (Section 104(h)(1)) or unavailability of equipment, personnel, or material at the time of the inspection; the violation shall be cited and a Notice of Violation issued. The Notice shall contain a determination of "impossibility of performance," and the basis for such determination shall be documented on the Notice. In some instances, such information may not be available until the inspector reaches the surface and has an opportunity to discuss the matter with persons who have knowledge of the case and to review the records.

9. Informational Notices or Warnings other than Safeguard Notices shall not be issued.

75.200-1 Roof control program requirements. To comply with the portion referring to training, all personnel required to install roof supports shall be trained by a qualified supervisor designated by mine management before being made solely responsible for such work. This training shall insure that such persons are familiar with the functions of the support being used, proper installation procedures, and the approved roof-control plan.

Each operator shall investigate all unintentional falls of roof, face, or ribs of sufficient magnitude to restrict ventilation or the passage of men on active working sections and falls of roof at or above the anchorage zone when roof bolts are used for control of roof, and the results of the investigation shall be recorded. These do not include falls in abandoned panels or in areas inaccessible or unsafe for such investigations.

75.200-2 Roof control plans. Roof-control plans required by this provision are for all types of roof support and apply to all active areas of the mine including escapeways.

75.200-6 Criteria for approval of roof-control plans. Sections 75.200-7 through 75.200-14 of the Federal Register set out criteria devised to assist District Managers in making decisions relative to approving or disapproving roof-control plans. These criteria are not mandatory unless included in a roof-control plan approved by a District Manager; therefore, a violation of the criteria is not to be cited as a violation of the roof-control plan unless that specific criterion is included in the roof-control plan approved by a District Manager for the mine in which the violation is observed. A hazardous roof condition or related unsafe practice may be considered an imminent danger whether or not a provision of the approved roof-control plan is violated. Violations are to be cited only when the applicable criteria are not adhered to within reasonable tolerances. Reasonable tolerances are considered to be twelve inches on widths of openings and six inches on spacing of roof supports provided the noncompliances are at intermittent locations.

The effectiveness of the approved roof-control plan shall be reviewed continually by the operator and at least every six months by a representative of the Secretary. The inspector shall evaluate its effectiveness by visual examination of the roof conditions and the support system. In addition, where roof bolts are used, the results of torque tests conducted shall be analyzed. If falls of roof, face, or rib or dangerous roof, face, or rib conditions have occurred and they can be attributed to the inadequacy of the roof-control plan; the operator shall be advised that the roof-control plan is considered inadequate and should be revised.

The District Manager shall be informed, and he shall take whatever action he deems necessary.

75.200-7 Criteria - full roof bolting plan. All components of a roof bolt assembly shall comply with the American National Standards Institute "Specifications for Roof Bolting Materials in Coal Mines." These are specifications that were sponsored by the American Mining Congress and approved by the American Standards Association on August 20, 1957.

Finishing bits shall be identified either by coding with permanent color or shaping the shank so that they can be differentiated readily from larger diameter starting bits. The finishing bit diameters should be within the recommended tolerances because experience has shown that oversize holes can have an adverse effect on bolt anchorage. In most cases the recommended hole diameter is 1-3/8 inches. To provide the correct hole size, bits should be no more than 1.405 inches nor less than 1.375 (1-3/8) inches in diameter. Drill bits used for finishing roof bolt holes are to be checked with a Go-No-Go gage (ring) to determine if bits are of the correct size. In the event holes are being finished with an oversized drill bit, the inspector shall cite a violation of the approved roof control plan.

The amount of roof support provided by roof bolts creating a beam depends on the tension (load) placed on the bolts when installed; that is, the higher the installed load, the greater the clamping force; and thus the stronger the beam created. However, the amount of installed load that can be applied is limited by the yield point of the bolt and the anchorage capacity. For determining recommended torque ranges the yield point of the bolt is assumed to be 14,000 and 18,000 pounds for 5/8 inch and 3/4 inch diameter high-strength steel bolts, respectively. These yield points are in excess of the minimums listed in the "Specifications for Roof Bolting Materials in Coal Mines," however, they are representative of many of the roof bolts presently being marketed. Anchorage capacity is defined as the load at which the anchor slips continuously and must be determined by anchorage tests.

The qualified person designated to spot-check torques may be the roof bolter or any other person who satisfies the requirements of Subpart B - Qualified and Certified Persons, Federal Register, Volume 35, Number 226.

Immediately after the first bolt is installed the torque shall be tested and thereafter at least one roof bolt out of every four shall be tested by a qualified person. If any bolt tested does not fall within the required torque range, the previously installed bolts on this cycle shall be tested. If the majority of the bolts fall outside the required range, necessary adjustments shall be made immediately. If, after these adjustments are made, the required torques are still not obtained, supplementary supports such as additional roof bolts, longer roof bolts with adequate anchorage, posts, cribs, or crossbars shall be installed.

This section stipulates that the torque on 10 percent of the roof bolts from the outby corner of the last open crosscut to the face be checked on a daily basis. These checks need only be made in those working places included in the mining cycle and are required only on days when coal is being produced in that section of the mine. The number of torque readings taken and the number falling above and below the approved range shall be recorded; actual torque values are not necessary. The majority of the bolts must maintain 70 percent of the mean torque required (50 percent if plates bear against wood) and must not exceed the maximum required torque by 50 percent.

75.200-8 Criteria - conventional roof control plan. Violations of post diameter requirements should not be cited unless diameters are consistently below minimum requirements.

Posts smaller in diameter than those specified may be used if they are installed in clusters and provide equivalent cross sectional area.

Cap blocks and footers shall have flat, parallel sides. Post-ends, half-round posts, or more than two wedges shall not be used as devices to lengthen a short post. This does not prohibit the use of more than one proper size wooden block for this purpose. The inspector should not cite this violation for isolated cases; it should be cited only when such occurrences appear to be normal practice at the mine.

75.200-12 Criteria - Special roof control plan. The minimum thickness of coal roof shall be determined by drilling test holes at intervals not exceeding 25 feet as the face is advanced. In mines where roof coal is left to assure that the rock is not exposed to weathering, violations shall not be cited unless the rock is exposed and artificial support is not installed as required in the roof control plan.

75.200-14 Criteria - Roof support recovery. The requirement that roof supports not be recovered where second mining has been done applies only to the recovery of roof bolts. Conventional supports may be recovered in pillaring areas, provided it is done safely in accordance with procedures approved by a District Manager.

The requirements relative to examination of the roof and designation of supports to be recovered does not apply where supports other than roof bolts are being recovered remotely, unless workmen are required to advance inby the last permanent supports to accomplish such recovery work.

A barricade, the purpose of which is to prevent persons from entering an area, is defined as any type of apparatus that would stop a workman from inadvertently entering such area.

75.201-1 Widths of openings. Excessive width is defined as twelve inches or more than the planned opening width. If the cause is due to sloughing ribs or is unintentional and not a normal practice, a violation should not be cited if adequate additional support is installed prior to the inspection. If it is evident that excessive widths are prevalent and are caused by poor mining practices, a violation shall be cited.

75.202-1 Adequate supply and location of roof support materials. If roof support supplies cannot be stored in the first crosscut outby the face because such storage constitutes a hazard, such hazard shall be explained in the roof control plan and an alternate location identified for the storage of roof support supplies.

75.205 Roof testing. The word "Operator" in this provision means the equipment operator.

75.300 Main fan installations. Main fans shall be installed and in operation in accordance with an approved ventilation plan as soon as possible after the first crosscut is made at drift mines and as soon as connections have been made between shaft and/or slope openings at shaft or slope mines.

75.300-2 Separate power circuits for main fans. The purpose of this section is to provide the mine fan with a dependable power supply that will not be affected by short circuits, grounded circuits, or overloads occurring in mine power circuits. Transformers or other power sources supplying mine fan circuits may also supply power to other circuits providing that such circuits are protected in a manner so that any malfunction in the other circuit will cause automatic deenergization of the affected circuit and not affect the mine fan circuit. In no case shall underground trolley circuits be used to supply power to main fan motors.

75.300-4(d) Daily and monthly fan inspection book. The records to be kept under this requirement may be kept in the fan-house of main fan locations.

75.301 Air quantities. The minimum quantities of air mentioned in this provision should not be assumed to be all that can be required by an inspector regardless of the actual requirements for a section or working area. This definitely is an erroneous impression. It is wholly inconsistent with the wording of these requirements, which states in part: "The minimum quantity of air reaching the last open crosscut in any pair or set of rooms shall be 9,000 cubic feet a minute." The demand for an increased quantity will be justified by the need for improving the quality of the air or to dilute methane.

75.301 Air quality (19.5 per centum oxygen and 0.50 per centum carbon dioxide). When it is necessary to cite a violation for inadequate ventilation and air samples are taken in the affected area, the violation shall not be considered abated until the analyses of the samples have been received, since they may show additional violations that the inspector could not detect. If a violation of this provision is disclosed by the analytical results of air samples after the inspector has left a mine, he shall return to the mine and issue an appropriate Notice or Order.

75.301-1 Quantity of air reaching working faces. The minimum quantity of 3,000 cubic feet of air a minute may be required by the District Manager on a mine-to-mine basis in places of ther than those mentioned in this regulation if stipulated on the approved ventilation plan.

75.302 Ventilation of the working face. The purpose of this section is to require line brattices or other approved ventilating devices in all working places in the working section, so as to provide a continuous flow of air to the faces, whether or not coal is being cut, mined, or loaded.

75.302-1 Installation of line brattice and other devices. Cut, mined, or loaded is interpreted to mean that line brattices or other approved devices shall be installed and maintained to within ten feet of the faces in those places where coal is cut; that is, a second face is made or where coal is broken from the solid; where coal is loaded by any means including hand and mechanical loading; where coal is drilled for blasting by hand-held or mobile coal drills; where roof bolts are being installed, or any other working place designated by the District Managers. The minimum quantity of air reaching the faces of these places shall be at least 3,000 cubic feet a minute.

75.302-3 Flame resistant brattice cloth and ventilation tubing. Lists of approved brattice cloth and ventilation tubing for use underground are available at the District Office.

75.303(a) Preshift examination. The examination of belt conveyors on which men are not transported shall be started without delay after each coal-producing shift has begun.

The examiner shall place his initials and the date and time at a sufficient number of locations to indicate that the entire belt conveyor has been examined.

The examination of travelways and haulageways does not require that every foot of roof and rib along the entire length of the travelway or haulageway be tested; however, the roof and ribs along all travelways and haulageways shall be inspected visually and doubtful places tested to assure that hazardous conditions are detected and corrected.

Mine examiners shall record properly in the mine examiner's record book all hazards observed including all violations of the Act and all underground places where dangerous conditions are observed. Failure of the mine examiner to properly fill out the mine examiner's book shall be cited as a violation of this provision.

75.303(b) Preshift examination of areas not covered under Section 75.303(a). This section refers primarily to persons entering a mine at idle hours, such as maintenance men, repairmen, and pumpmen. The examination referred to is intended to cover any area in the mine, active or otherwise, that such persons are required to enter.

75.304 On-shift examinations for hazardous conditions. Areas to be examined during the on-shift examination shall include all active roadways, travelways, working places, approaches to abandoned areas and pillar lines, and equipment within the area of the section to assure the safety of the miners.

When it is evident that provisions of the Act are not being complied with in the underground working places, and the examiner has not initiated action to correct such violations, the inspector observing this noncompliance shall cite a violation of this provision in addition to the provision of the Act that covers the specific hazard.

The results of these examinations shall be recorded in accordance with Section 75.324.

75.306 Weekly ventilation examinations. The periodic air measurements at specified locations as required by this provision are intended to alert the mine operator to any changes in the primary mine ventilation system and to assist the mine operator in determining system deficiencies, projecting future requirements, and in assuring good mine ventilation. Records of such measurements provide information for other interested persons.

In addition, established stations indicated on the mine map should be encouraged by the inspector at each location where air volume measurements are required by this provision.

75.307 Methane examinations. It should be noted that qualified persons can make the examinations required by this section. More frequent examinations for methane may be required by an authorized representative of the Secretary if justified by the amount of liberation of methane during mining operations.

A methane detector or other means approved by the Secretary must be used as the primary methane detecting device. A flame safety lamp may be used as a supplemental testing device, but tests for methane made with flame safety lamps shall not be accepted as valid gas tests. Tests for oxygen deficiency shall be made with a permissible flame safety lamp or other means approved by the Secretary.

The phrase "before electrically operated equipment is energized" applies to any electric circuit inby the breaker station, power distribution center, or other power source located in the working section. This is also interpreted to mean that such equipment must be deenergized during idle periods such as between shifts unless the equipment is attended.

75.308 Methane accumulations in face areas. While making changes or adjustments because of an accumulation of methane in a working face, precautions must be taken so as not to endanger another area of the mine.

75.309 Return air; tests and adjustments. If these changes or adjustments require a change of the section regulator, this must be done as required in Section 75.322.

75.310 Methane in virgin territory. If, when tested, a split of air returning from a working section in virgin territory contains 1.0 volume per centum or more of methane, and if the quantity of air in the split ventilating the working section is not equal to or in excess of twice the minimum volume of air prescribed in Section 75.301 for the last open crosscut; and if a certified person is not continually testing the methane content of the air in such split during mining operations in such workings, the inspector shall take action under Section 75.309(a) or Section 75.309(b), as applicable.

75.311 Air passing opening of abandoned areas. The term "abandoned areas" as used in this section means sections, panels, and other areas that are not ventilated and examined as required for active underground working places. Areas in panels where retreat or pillar mining is conducted cannot be considered as abandoned areas for the purpose of this section.

75.312 Air passing through abandoned, inaccessible, or robbed areas. The term "inaccessible or unsafe for inspection" means any area that, because of physical conditions, such as falls of roof, unsafe roof, or accumulations of water or gas, cannot be completely or safely examined as required by Section 75.303. An exception is provided to mine enough working places immediately adjacent to the line of retreat in order to maintain an orderly sequence of pillar recovery for this same working section.

75.313 Methane monitors. On longwall installations, the sensing device of the methane monitor shall be installed in the return air current near the return end of the longwall face, unaffected by a secondary intake if used. However, the sensing device may be installed at locations designated by the District Manager. The methane monitor shall be connected in such manner so as to deenergize all electric circuits in the section when the concentration of methane reaches a maximum of 2.0 volume per centum of methane, except that the methane monitor may remain energized. In addition, the face must be reexamined as in Section 75.307 before equipment is reenergized. Methane monitors shall not be used as a basis for issuing notices or orders.

Methane monitor readings shall not be used to meet the requirements in Sections 75.307 and 75.308. Examinations for methane using hand-held methane detectors shall be made at intervals not to exceed 20 minutes.

75.313-1 Methane monitors, maintenance. A maintenance program shall be established to assure the monitors are in proper operating condition. Standard methane-air mixtures shall be used to calibrate all methane monitors, and calibration tests using a hand-held detector will not be acceptable.

75.314 Inspection of idle and abandoned areas. Qualified persons (properly equipped with detectors for methane and oxygen deficiency) such as pumpmen are permitted to make examinations for themselves but not for other persons assigned to work in the same area. However, a cer a certified person must have inspected for methane and oxygen deficiency and other dangerous conditions within 8 hours prior to the entrance of the qualified person into the area.

75.315 Examinations before intentional roof fall. This is not intended to require an examiner to be in an unsafe area, such as unsupported or broken roof, along a pillar line. The examination should include enough of the area to assure that no accumulation of methane is present on the pillar line before the fall is made.

This provision applies when removing pillar stumps with a machine or drilling and blasting or when posts or other roof supports are removed to induce a roof fall.

75.316-1(b)(2) Information to be submitted by operator. Face ventilation plans shall provide sufficient detail to show ventilation (air quantities and velocities) of all faces in the working sections.

75.316-2(b) Criteria for approval of ventilation system and methane and dust-control plan. Mine ventilation should be so arranged by means of overcasts, undercasts, or the equivalent, that the passage of equipment along the entries will not cause interruption of the air current and these overcasts or undercasts should have sufficient area above and below and smooth approaches so as not to restrict the flow of air. Violations of ventilation and dust control plans that are covered under other regulations are to be cited under the applicable regulation.

75.317 Maintenance of detecting devices. The person or persons designated by the operator to maintain and care for permissible flame safety lamps and other devices for detecting methane and oxygen deficiency shall be trained in the maintenance and care of each such detecting device that is used in the mine, and such person or persons shall check such devices to insure that they are in permissible condition before the beginning of each shift.

Such safety lamps used underground for a shift or less shall be removed from service, disassembled, cleaned, serviced, and tested before again being taken underground.

Permissible methane detecting equipment other than flame safety lamps shall be periodically calibrated for accuracy with a known methane-air mixture at least once each month (intervals not exceeding 31 days).

75.322 Changes in ventilation. Changes in mine ventilation which affect any split or main air current, including any change which increases or decreases the volume of air flowing to any split or main air current, shall be thoroughly checked to insure that no split has been affected in such a way as to cause a hazard to the miners.

Any ventilation change in which any split of air is to be increased or decreased by an amount equal to or in excess of 9,000 CFM shall be made only when the mine is idle. Before mine power can be restored in all areas affected by such ventilation changes an examination is required as in Section 75.303.

75.323 Countersigning of reports. The mine superintendent or the assistant superintendent shall read and countersign the daily reports and weekly report not more than one day after each report is made.

75.326 Type of stopping between intake and return air courses and belt haulage entries. Belt haulage entries developed since March 30, 1970 in any coal mine must be separated from entries used as intake or return aircourses. The separation shall be from the point from which development has advanced since March 30, 1970. Such separation shall be accomplished by the use of permanent type stoppings such as those referred to in Section 75.316-2(b).

Permanent stoppings as defined in Section 75.316-2(b) shall be erected between the intake and return air courses in entries and shall be maintained to and including the third connecting crosscut outby the faces of the entries. In the case of all coal mines opened on or after March 30, 1970, and in the case of all new working sections opened on or after such date in mines opened prior to such date, permanent stoppings shall be used to separate the belt and trolley haulage entries from the parallel intake escapeway entries, except that stoppings of an incombustible material other than concrete, concrete blocks, cinder blocks, brick, or tile having sufficient strength to serve the purpose for which the stopping is intended may be used to separate parallel intake escapeway entries from the belt and trolley haulage entries in panel entries, room entries, and butt entries. However, before the District Manager approves the use of such stoppings, the operator shall submit the following information to be incorporated in the ventilation system and methane and dust control plan:

(a) A complete list of materials to be used in the construction of the stoppings.

(b) A detailed description of the construction of the stoppings.

(c) A complete list of the areas in the mine where these stoppings will be used, the estimated life of these areas, and the intended use, such as belt or intake escapeway separation.

The following stopping construction materials are approved for use:

1. Silica foam or other flame-retardent foam covering expanded metal mesh.

2. Metal sheeting or steel foil of a minimum thickness of .004 inches sealed at the edges with urethane foam, vermiculite plaster, or wood fibre.

3. Preformed slabs of lightweight concrete or mortar.

Such stoppings, to be acceptable, must be installed in a workmanlike manner and supported on a substantial framework; the juncture between the stopping and ribs, roof and floor must be relatively airtight. The stopping should be located in the crosscut as close as practicable to the intake escapeway entry with access doors provided at predetermined intervals. Nominal 2-inch or thicker fire-retardent treated wood may be used as a framework provided that it does not constitute a major portion of the stopping and is exposed to the intake escapeway entry.

In conventional or continuous mining sections, the use of mobile belt conveyors to provide haulage from mining equipment at the working face to the primary haulage system, in lieu of shuttle cars or other such haulage equipment, and cross-belt conveyors within the working section are not limited by Section 75.326.

75.327 Air courses and trolley haulage entries. This section requires a sufficient number of intake air courses to limit the air velocity in trolley haulageways to minimize the hazards associated with fires and dust explosions in any new coal mine or any new working section opened on or after the operative date of this Act. The air in the trolley haulage entry, when separated from the belt haulage entry, may be used to ventilate the active working places if incorporated in the approved ventilation plan.

In mines or working sections where no trolley wire or trolley feeder wires are used, this provision does not apply.

Should conditions develop which necessitate an increased velocity in trolley haulageways in excess of 250 feet a minute, the mine operator should apply to the District Manager for an exception to this provision, giving in detail reasons for such application.

75.328 Ventilation during pillar extraction. Ventilation during pillar extraction shall be maintained to the face of each pillar slab or cut where second mining has begun and must continue until the pillar has been extracted or abandoned.

75.329 Bleeder systems. The purpose of this provision is to require the operator of any coal mine to establish a mining system and sealing procedure designed to provide maximum protection from the hazards associated with methane during second mining, and to prevent the migration of methane from areas where pillars have been wholly or partially extracted and from abandoned areas into active workings.

The areas where pillars have been wholly or partially extracted and abandoned areas, including areas of second mining, are those areas other than active workings which must be ventilated or sealed under this provision. Idle mining sections are not considered abandoned areas and shall be ventilated.

When ventilation of such pillared or abandoned areas is required, plans covering the use of bleeder entries, bleeder systems, or equivalent means shall be submitted to the District Manager for approval.

Should the methane concentration in any part of the bleeder system exceed the specified limits as provided by this section, or should the bleeder system fail to function adequately, immediate action shall be taken to correct such conditions and to insure the safety of the men. Should such corrective steps be inadequate to obtain compliance, production activities in any active working connected to the affected bleeder system shall cease and immediate steps shall be taken to seal the area; however, should the operator deem that such condition can be corrected and compliance obtained by modification of the mine ventilation or bleeder system, he shall apply to the District Manager for approval.

75.330 Sealing abandoned sections. In the case of all development after the operative date of this Act, the plan of the mine ventilation system, as required under Section 75.316, shall include provisions for isolating each active working section of the mine from any other active workings by sealing with approved explosion-proof seals or bulkheads, if conditions so warrant. The pillars in the proposed seal areas shall be of sufficient size and number to protect such seal or bulkheads from overburden pressures.

75.400 Imminent danger. Experience has demonstrated that the presence of inadequately inerted coal dust in mines can propagate explosions initiated by the ignition of methane or other ignition sources. Consequently, the presence of observable inadequately inerted coal dust in a mine creates a danger that a mine explosion or a mine fire will occur in such mine immediately or before the imminence of such danger can be eliminated and shall be cause for the making of an Order of Withdrawal under Section 104(a).

The phrase "presence of inadequately inerted coal dust"means the general and consistent existing presence in an area of quantities of coal dust which are not adequately inerted. It does not mean small, isolated pockets or small quantities of inadequately inerted coal dust. It was not intended that 104(a) Orders be issued when such small, isolated pockets of inadequately inerted dust are observed, without giving consideration and regard to the otherwise general and consistent presence of adequately inerted material, or where such quantities occurred or resulted from an unusual or isolated operational condition.

"Accumulations of combustible materials" emcompasses accumulations that might precipitate or propagate explosions or fires. Section 75.400 requires that excessive and unwarranted accumulations of loose coal, coal dust, and other accumulations of combustible materials be eliminated by removing such accumulations from the mine to the greatest extent practicable, such as hand shoveling or equivalent means. After such removal, the area in which such accumulations existed shall be treated adequately with inert materials to prevent the precipitation or propagation of an explosion or fire.

75.400-2 Cleanup program. The program required by this section shall be outlined in written form and shall be available to the Secretary or his authorized representative. Consideration shall be given as to whether the program is effective, systematic, and is adequate under normal circumstances to control dangers from float dust,dust and loose coal along beltways, and dust and loose coal in the area between the face and the loading point. Observance of quantities of inadequately inerted loose coal or coal dust throughout various areas of the mine during a single inspection, or from shift to shift, or from day to day, or on inspection after inspection, should be taken into consideration and would be a strong indication that a systematic and effective inerting program is not in operation.

The following are to be considered when citing a violation of 75.400 and 75.400-2:

1. When indications are present that an effective and systematic program for cleanup and rock-dusting is in existence and small, isolated pockets or small quantities of loose coal, coal dust, including float coal dust deposited on rock dusted surfaces, or other combustible materials, are observed, action shall be taken under Section 104(b) providing a maximum reasonable time of no more than 30 minutes.

2. When indications are present that an effective and systematic program for cleanup and rock-dusting is not in existence and small, isolated pockets or small quantities of loose coal, coal dust, including float coal dust deposited on rock dusted surfaces, or other combustible materials, are observed, action shall be taken under Section 104(c)(1) providing a maximum reasonable time of no more than 30 minutes if a 104(c)(1) Notice is issued. A 104(c)(1) Notice may be issued only once and after that all actions are taken either under 104(c)(1) or (c)(2) Orders and continues until a similar violation is not observed during a complete regular inspection.

3. When loose coal, coal dust, including coal used for constructing loading ramps and float coal dust deposited on rock dusted surfaces, or other combustible materials is observed in quantity throughout various areas of a section or mine, action shall be taken under Section 104(a) citing imminent danger.

Collection of dust samples to substantiate violations. Except in the case of float coal dust deposited on rock dusted surfaces, the inspector shall collect spot samples to support any violation cited for 75.403; however, such samples need not be collected prior to issuing Withdrawal Orders or Notices.

These samples shall be collected as follows: separate samples of mixed dust of (1) the roof and ribs and (2) the floor shall be collected. The material on the floor shall be sampled to a depth of one inch. The band or perimeter method of collecting samples shall not be used.

When the analytical results of the samples show that the Notice or Order should not have been issued the Notice or Order shall be vacated.

75.402 Rock-dusting worked-out areas. If worked-out areas which are not rock-dusted are near active working areas and the rock-dusting can be done with reasonable safety, they shall be rock-dusted in accordance with 75.402. However, it would be unwise for an inspector to require rock-dusting of worked-out areas if the men performing the rock-dusting would be exposed to potentially more serious hazards, such as bad roof, poor ventilation,etc. Nevertheless, where high-pressure rock-dusting machines are available, inspectors shall require that these machines be used at the outby edges of abandoned areas to rock-dust as much of the area as is possible to do safely.

Artificial wetting shall not be accepted as inerting coal dust. Only mines or areas of mines that are naturally wet shall be exempt from rock-dusting. Mines or areas of mines that are wetted artificially must also be rock-dusted.

Crosscuts less than 40 feet from a working face that are required to be rock-dusted are those crosscuts in which normal mining has been completed, the roof adequately supported. Such work shall be completed within the next regular mining cycle. The combined area of the entry or room and crosscut shall not exceed 40 feet before the area is rock-dusted.

75.403 Application of rock dust wet. So long as the percentages of incombustible content specified in 75.403 are maintained, rock dust may be applied wet in

the following manner: Wet rock dust shall be limited to rib and roof surfaces in face areas; it shall not be used for redusting mine surfaces; in such applications, only limestone or marble dust which meets the specifications contained in Section 75.1(d) shall be used; the application shall be at the rate of not less than 3 ounces (weight) of dust per square foot of surface, and shall be by a mixture of not more than 6 to 8 gallons of water with 100 pounds of dust, whether by premixed slurry or by mixing at the nozzle of a hose to assure that the mixture is not too fluid and that sufficient dust adheres to the surfaces. After the wet rock dust dries, additional dry rock dust shall be applied to all surfaces to meet applicable standards. Wet rock-dusting of ribs and roof does not eliminate the necessity for dry rock-dusting the floor.

75.404. Sections 75.401, 75.402, and 75.403 shall not apply to underground anthracite mines.

75.500 Permissible electric equipment. (a) Two or more power connections to the same source of power are considered multiple-power connections.

(b) Low horsepower electric face equipment designated by the Secretary means equipment which is powered by motors of 3 horsepower or less, or such other electric powered devices that consume not more than 2,250 watts of power.

(c) All electric face equipment used in mines classed gassy by either the Bureau of Mines or any State agency as of March 30, 1970, shall be permissible by March 30, 1971.

(d) This section provides that on and after March 30, 1971, only permissible electric face equipment may be taken into or used inby the last open crosscut of any coal mine that had not been classed gassy under any provision of law before March 30, 1970, and which is being operated in coal seams below the natural drainage level of the area. The natural drainage level would normally be a river or the tributary of a river into which a local surface water system naturally drains. This section applies also to mines that were opened between December 30, 1969, and March 30, 1970. Nonpermissible electric face equipment being operated under permits of noncompliance issued by the Interim Compliance Panel will be provided with metal identification plates affixed to each machine. Such equipment may only be used in the mine for which the permit was granted and only during the time period stated in the permit.

A mine opened prior to December 30, 1969, operated in coal seams located below the water table and which had not been classified gassy prior to March 30, 1970, shall be required to use all permissible electric face equipment on and after March 30, 1971, except that for which permits of noncompliance have been issued.

75.501 Permissible electric face equipment; coal seams above water table. This section requires that all electric face equipment in mines in coal seams above the natural drainage level of the area that have never been classed gassy under any provision of law shall be permissible on or before March 30, 1974. Only mines which had one or more openings prior to December 30, 1969, are permitted to use open-type equipment until March 30, 1974. Application for field approval of electrically operated mine equipment shall be submitted on Form 6-1481.

This section does not apply to hand-held drills, auxiliary fans, pumps, junction and distribution boxes which shall be permissible on or before March 30, 1971, regardless of whether the mine is located above or below the water table.

Any mine that is opened after March 30, 1970, shall use only permissible electric face equipment on and after March 30, 1971.

Any mine that is opened after March 30, 1971, shall commence operations with and continue to use only permissible electric face equipment.

The term "electric face equipment" means electric equipment that is installed, taken into, or used in or inby the last open crosscut.

75.503 Permissible electric face equipment; maintenance. Failure to maintain in a permissible condition all equipment that is required to be permissible and all unauthorized field changes of such equipment shall be cited under this section. Only one Notice of Violation citing all deficiencies of permissibility shall be issued for any machine at one time.

The inspector shall check the following items when inspecting permissible-type electric face equipment. All equipment including the trailing cable shall be deenergized before making tests for permissibility deficiencies.

1. Type and capacity of trailing-cable overcurrent protection.

2. To make certain that the return circuit and frame-ground conductors are not attached to a common connector (individual clamps should be used.)

3. Type and size of trailing cable and condition of insulation and splices.

4. Trailing-cable strain clamp for effectiveness at entrance to machine. Rollers and sheaves to determine if working properly (on approved-type Joy shuttle cars, sheaves are constructed of micarta).

5. To determine length of trailing cable.

6. Cable-reel level-wind mechanism for excessive wear and proper working condition.

7. Spooling devices for damaged insulation to prevent the trailing cable from contacting grounded metal parts.

8. Explosion-tested compartments for openings in excess of 0.004 inch. For missing or loose cap screws and missing lock washers. If breathers are used, examine for cleanliness.

9. Cable packing glands for tightness at entrance to explosion-tested compartments.

10. Condition of hose conduit on cable and missing or loose hose clamps.

11. Headlights for loose lens, packing glands and missing locks or seals.

12. Inspection covers on motors and compartments.

13. Tolerances of cylindrical fits (refer to Guidebook).

14. To see that an approval plate is attached to the machine.

15. For unauthorized changes in approved-type equipment.

16. Effectiveness of electrical and mechanical interlocks (power takeoff switches, cutting motor, etc.).

17. Cleanliness of machine.

The procedure for making field changes in the electrical components or circuits of permissible equipment is as follows:

1. The operator should submit a simple explanation of the proposed changes to Approval and Testing, Technical Support Center, 4800 Forbes Avenue, Pittsburgh, Pennsylvania 15213, listing the model number, serial number, and approval number of the machine. A copy of the request should be sent to the field office involved.

2. The District or Subdistrict office should assign an electrical engineer or electrical inspector to inspect the machine and make a detailed field change report which will be sent to Approval and Testing.

3. Approval and Testing will either approve or deny the request by written report to the operator, with copies to the District or Subdistrict office and the District office of the Mine Workers' organization having jurisdiction.

75.504 Permissibility of replacement and rebuilt electric face equipment

A major overhaul is a rebuilding operation in which 25 percent of the acquisition price is expended in the rebuilding and in which at least part of the electrical circuits or components were rebuilt or repaired. "Replacement electric face equipment" means any additional equipment purchased after March 30, 1971.

75.507 Power connection points. This provision prohibits the use of open-type electric equipment such as battery-powered vehicles, transformers, power distribution units, switches, motors, controllers, and trolley equipment in return air. This does not prohibit the installation of power and control cables in return airways.

Mines that are permitted to use nonpermissible electric face equipment under Section 75.501 may also use such equipment in return airways for the same period of time.

"Return air" for the purpose of this section means air that has been used to ventilate the last working face in a coal producing section or pillared area.

75.508 Map of electrical system. Portable section transformers, rectifiers and other electrical apparatus need not be shown on the electrical map until such equipment has been in place longer than 6 months. This map shall be maintained at the mine site.

75.508-2 Changes in electric system map; recording. This provision requires also that any changes made in the trolley circuit be recorded no later than the next work day following completion of the changes.

75.509 Electric power circuit and electric equipment; deenergization. When it is necessary to position certain mechanical parts of equipment for lubrication or repairs, or when the hydraulic fluid must be power pumped, the machine may be energized for that portion of the work, but repair or manual lubrication work shall not be done until the power is removed from the machine. Opening a circuit breaker which is installed on the machine and which opens all power conductors entering the machine shall be accepted as compliance with this section for lubrication or changing bits. If electrical or mechanical work is to be performed, both the machine and trailing cable shall be deenergized.

75.510 Energized trolley wires; repair. A properly trained person may repair energized trolley wires if he wears insulated footwear and wiremen's gloves that are rated by the manufacturer at a minimum of 1,000 volts. Such insulated gloves and footwear should be closely inspected before each period of use. Leather shoes and/or leather or rubberized gloves are not acceptable as compliance with this section.

75.511 Low-, medium-, or high-voltage distribution circuits and equipment; repair. "Suitably tagged" means that a sign with wording such as "Danger - Do Not Close - Men Working on Line," shall be attached to the locked switches.

75.512 Electric equipment; examination, testing, and maintenance. If the qualified person making the required examination and tests finds any potentially dangerous condition such as missing inspection covers, improper overload protection, inoperative lights, missing or malfunctioning safety devices, inoperative brakes, improper frame-grounding, exposed wiring, poorly made splice in conductors, permissibility deficiencies, accumulations of lubricant and coal dust on electrical equipment, missing guards, defective steering or other controls, or motors or speed reducers heating abnormally,

he shall immediately cause the defective equipment to be removed from service until such condition is corrected. If an authorized representative of the Secretary finds that the required examinations and tests are not being made, or if he finds any potentially dangerous conditions on such equipment, he shall issue a Notice of Violation of this section (except that failure to maintain permissibility shall be cited under 75.503.) However, under certain conditions these defects may present an imminent danger and require issuance of a withdrawal order covering the affected equipment.

75.513-1 Electric conductors; size. The allowable ampacities of copper conductors are found in Tables 310-12 and 310-13 of the National Electric Code 1968. Ampacities of high voltage mine power cables shall meet those listed in the appropriate table of the Insulated Power Cable Engineers Association - National Electrical Manufacturers Association Standards (IPCEA-NEMA). Copies of each follow:

Table 310-12. Allowable Ampacities of Insulated Copper Conductors

Not More than Three Conductors in Raceway or Cable or Direct Burial (Based on Ambient Temperature of 30°C. 86°F.)

Size	Temperature Rating of Conductor. See Table 310-2(a)						
AWG MCM	60°C (140°F)	75°C (167°F)	85°C (185°F)	90°C (194°F)	110°C (230°F)	125°C (257°F)	200°C (392°F)
	TYPES RUW (14-2), T, TW	TYPES RH, RHW, RUH (14-2), THW, THWN, XHHW, THW-MTW	TYPES V, MI	TYPES TA, TBS, SA, AVB, SIS, FEP, FEPB, RHH, THHN, XHHW**	TYPES AVA, AVL	TYPES AI (14-8), AIA	TYPES A (14-8), AA, FEP* FEPB*
14	15	15	25	25†	30	30	30
12	20	20	30	30†	35	40	40
10	30	30	40	40†	45	50	55
8	40	45	50	50	60	65	70
6	55	65	70	70	80	85	95
4	70	85	90	90	105	115	120
3	80	100	105	105	120	130	145
2	95	115	120	120	135	145	165
1	110	130	140	140	160	170	190
0	125	150	155	155	190	200	225
00	145	175	185	185	215	230	250
000	165	200	210	210	245	265	285
0000	195	230	235	235	275	310	340
250	215	255	270	270	315	335	....
300	240	285	300	300	345	380	....
350	260	310	325	325	390	420	....
400	280	335	360	360	420	450	....
500	320	380	405	405	470	500	....
600	355	420	455	455	525	545	....
700	385	460	490	490	560	600	....
750	400	475	500	500	580	620	....
800	410	490	515	515	600	640	....
900	435	520	555	555	....	....	....
1000	455	545	585	585	680	730	....
1250	495	590	645	645	....	....	....
1500	520	625	700	700	785	....	....
1750	545	650	735	735	....	....	....
2000	560	665	775	775	840	....	....

* Special use only. See Table 310-2(a). ** For dry locations only. See Table 310-2(a).
These ampacities relate only to conductors described in Table 310-2(a).
† The ampacities for Types FEP, FEPB, RHH, THHN, and XHHW conductors for sizes AWG 14, 12 and 10 shall be the same as designated for 75°C conductors in this Table.
For ambient temperatures over 30°C, see Correction Factors, Note 15.

Table 310-13. Allowable Ampacities of Insulated Copper Conductors

Single Conductor in Free Air (Based on Ambient Temperature of 30°C. 86°F.)

Size	Temperature Rating of Conductor. See Table 310-2(a)							
AWG MCM	60°C (140°F)	75°C (167°F)	85°C (185°F)	90°C (194°F)	110°C (230°F)	125°C (257°F)	200°C (392°F)	
	TYPES RUW (14-2), T, TW	TYPES RH, RHW, RUH (14-2), THW, THWN, XHHW	TYPES V, MI	TYPES TA, TBS, SA, AVB, SIS, FEP, FEPB, RHH, THHN, XHHW**	TYPES AVA, AVL	TYPES AI (14-8), AIA	TYPES A (14-8), AA, FEP* FEPB*	Bare and Covered Conductors
14	20	20	30	30†	40	40	45	30
12	25	25	40	40†	50	50	55	40
10	40	40	55	55†	65	70	75	55
8	55	65	70	70	85	90	100	70
6	80	95	100	100	120	125	135	100
4	105	125	135	135	160	170	180	130
3	120	145	155	155	180	195	210	150
2	140	170	180	180	210	225	240	175
1	165	195	210	210	245	265	280	205
0	195	230	245	245	285	305	325	235
00	225	265	285	285	330	355	370	275
000	260	310	330	330	385	410	430	320
0000	300	360	385	385	445	475	510	370
250	340	405	425	425	495	530	....	410
300	375	445	480	480	555	590	....	460
350	420	505	530	530	610	655	....	510
400	455	545	575	575	665	710	....	555
500	515	620	660	660	765	815	....	630
600	575	690	740	740	855	910	....	710
700	630	755	815	815	940	1005	....	780
750	655	785	845	845	980	1045	....	810
800	680	815	880	880	1020	1085	....	845
900	730	870	940	940	....	....	....	905
1000	780	935	1000	1000	1165	1240	....	965
1250	890	1065	1130	1130	....	....	....	....
1500	980	1175	1260	1260	1450	....	....	1215
1750	1070	1280	1370	1370	....	....	....	....
2000	1155	1385	1470	1470	1715	....	....	1405

* Special use only. See Table 310-2(a).
** For dry locations only. See Table 310-2(a).
These ampacities relate only to conductors described in Table 310-2(a).
† The ampacities for Types FEP, FEPB, RHH, THHN, and XHHW conductors for sizes AWG 14, 12 and 10 shall be the same as designated for 75°C conductors in this Table.
For ambient temperatures over 30°C, see Correction Factors, Note 15.

Appendix G

AMPACITIES* AND APPROXIMATE VOLTAGE DROP OF THREE-CONDUCTOR MINE POWER CABLES

Conductor Size, AWG or MCM	A. Ampacities*						B. Approximate Voltage Drops for All Voltages					
	70 or 75 C Insulation			85 C Insulation			75 C Insulation 60-cycle Phase-to-phase Voltage Drop per Ampere per 1000 Feet at Power Factors of			85 C Insulation 60-cycle Phase-to-phase Voltage Drop per Ampere per 1000 Feet at Power Factors of		
	0-5 kV 75 C	5.1-8 kV 75 C	8.1-15 kV 70 C	0-5 kV	5.1-10 kV	10.1-15 kV	80%	90%	100%	80%	90%	100%
6	72	75	...	80	84	...	0.76	0.83	0.85	0.79	0.85	0.91
4	93	99	96	104	111	115	0.50	0.54	0.55	0.50	0.54	0.56
2	124	127	122	139	142	146	0.33	0.35	0.35	0.33	0.35	0.35
1	142	144	140	159	161	168	0.27	0.28	0.28	0.27	0.28	0.28
1/0	163	168	160	182	187	191	0.22	0.23	0.22	0.22	0.23	0.22
2/0	191	195	185	213	218	222	0.18	0.19	0.17	0.18	0.19	0.18
3/0	214	220	209	239	246	251	0.15	0.15	0.14	0.15	0.16	0.14
4/0	245	250	238	274	279	286	0.13	0.13	0.11	0.13	0.13	0.11
250	271	277	262	304	310	314	0.11	0.11	0.094	0.11	0.11	0.097
300	300	311	290	336	348	347	0.097	0.095	0.078	0.097	0.10	0.080
350	333	342	318	373	383	380	0.087	0.085	0.067	0.089	0.087	0.070
400	360	368	341	403	412	409	0.077	0.077	0.059	0.082	0.079	0.061
450	385	395	364	432	443	439	0.075	0.071	0.053	0.077	0.074	0.055
500	408	423	390	456	474	467	0.070	0.065	0.047	0.071	0.067	0.049

*Ampacities--current-carrying capacity in amperes at an ambient temperature of 40 C.

Correction factors for ampacities for various ambient temperatures are as follows:

Ambient Temperature, Degrees C	Correction Factors	
	75 C	85 C
10	1.36	1.29
20	1.25	1.20
30	1.13	1.10
40	1.00	1.00
50	0.85	0.88

75.514 Electrical connections or splices; suitability. This section requires that all splices in current-carrying conductors be made with clamps, connectors, track bonds or other suitable connectors to provide good electrical connections. Tape, such as rubber, tar impregnated, glass, asbestos, or plastic, will be acceptable as insulation. Friction tape alone is not acceptable but can be used over other tapes to provide mechanical protection.

Spliced conductors in all multiple conductor cables shall be reinsulated individually and an outer jacket, comparable to that covering the remainder of the cable, shall be placed around the completed splice. Splices made by twisting conductors together, tying knots in conductors, splices that have bare or exposed conductors, splices that heat or arc under load, or splices in multiple conductor cables that do not have the outer jacket replaced shall constitute noncompliance.

Feeder wires shall be joined together by proper feeder-wire splices. Wire rope clamps will be acceptable for splicing feeder wires if a minimum of two clamps of the proper size are used in making each splice and periodically examined for tightness.

Where track is used as a power conductor, efficient connections require that:

1. Both rails of main-line tracks shall be welded or bonded at every joint, and crossbonds shall be installed at intervals of not more than 200 feet. If the rails are paralleled with a feeder circuit of like polarity, such parallel feeder shall be bonded to the track rails at intervals of not more than 1,000 feet.

2. At least 1 rail on secondary track-haulage roads shall be welded or bonded at every joint, and crossbonds shall be installed at intervals of not more than 200 feet; however, rail joints in such secondary haulage roads need not be bonded where a copper feeder adequate in size parallels the track and is electrically connected thereto at intervals of not more than 200 feet by crossbonds.

3. Track switches on entries shall be well bonded.

4. In rooms where electric equipment is dependent upon the room track rails as a power conductor, rail joints shall be secured by means of fish plates, angle bars, or the equivalent, and at least one rail shall be bonded at each joint.

Main-line track is interpreted to be track outby the junction of two or more coal-producing sections that is used to transport coal.

Secondary track is interpreted to be any track that is not used to transport coal or any track that is used to transport coal from a single producing section.

Both rails of secondary track may be required to be bonded or welded at each joint if the additional current-carrying capacity is needed for compliance with 75.1001.

75.515 Cable fittings; suitability. This section requires fittings of such design as to prevent chafing or rubbing through of cable or wire insulation that would expose or accidentally ground the conductors at points where they enter the compartment walls of switchboxes, starters, motors, etc. Insulated wires passing through walls of metal enclosures shall be protected against damage to the insulation by insulated bushings or suitable insulating material such as fire resistant hose conduit. Fittings for cables need not be insulated. A cable, either single or multiple conductors, for the purpose of this part is one that has an outer protective jacket in addition to the insulation provided for each power conductor.

75.516 Power wires; support. This section does not prohibit single conductor cables used in three phase, resistance grounded, low-voltage circuits, from being installed in proper hangers and supported by a grounded messenger wire or the installation of insulated wires in metal conduit.

"J" hooks will be acceptable as insulators for insulated control cables and for temporary installation (not more than 6 months) of insulated power cables. Insulated wire, either single conductor or twisted pair, used for control circuits may be installed on insulated "J" hooks for a maximum period of 6 months. Cables used between power centers and distribution or circuit breaker boxes may be considered as trailing cables if they meet all requirements of Section 75.600 through Section 75.607 and need not be installed on insulators.

75.517 Power wires and cables; insulation and protection. Ungrounded direct-current power conductors installed in belt conveyor entries and used to conduct current from trolley or trolley feeder wires to coal-producing sections shall be insulated. In trackless mines and trackless entries, all ungrounded direct-current power conductors shall be insulated.

Any ungrounded power conductor installed from the track entry for any purpose shall be insulated. Ungrounded, insulated feeder wire with extensively damaged insulation will be considered bare feeder wire.

Power wires and cables shall be installed under well supported roof and far enough away from moving equipment to prevent damage; however, in many locations metal or nonmetallic conduit may be necessary for additional protection against damage. Some examples of these locations are: Where cables other than trolley feeder cross trolley wire or are installed within 12 inches of trolley wire; where cables pass through doors or stoppings; where cables are installed along supply storage areas; where cables are installed on tight corners with insufficient

clearance; or other areas where the wires or cables cannot be isolated sufficiently to afford protection.

75.518 Electric equipment and circuits; overload and short circuit protection.

Both short circuit and overload protection shall be provided at the beginning of each branch line unless an interrupting device located in the same circuit outby the beginning of the branch line will open the circuit when the branch line becomes overloaded or short-circuited.

Oversize fuses and adjustable circuit breakers with excessively high trip settings will not provide the intended protection for circuits or equipment. For example, a No. 14 wire will melt when 160 amperes flow through it but can become "red hot" at lower currents. It is obvious that protecting a No. 14 wire against overloads with a 150-ampere fuse or circuit breaker presents a fire hazard.

The proper values of overcurrent and short-circuit protection shall conform to the appropriate tables of the 1968 National Electric Code. The protective devices can be either automatic circuit-breaking devices or fuses. The proper trip setting or fuse rating to protect electric circuits is based on wire size, type of conductor insulation, and the number of conductors assembled together (in a cable or in a conduit.) Protection for electric equipment is based on full load current ratings, circuit voltage, and consideration of inrush or energizing currents.

Three-phase alternating current circuits shall be protected as required by 75.900.

In direct-current systems that are either ungrounded or in which a resistance neutral grounding point is provided, protective elements shall be provided for both positive and negative lines. This necessitates the use of a two-pole circuit breaker equipped with a ground trip arrangement.

The instantaneous trip setting of a circuit breaker shall not be confused with the rating of a circuit breaker. A 100-ampere circuit breaker is designed to carry 100 amperes continuously, but the instantaneous trip setting of the common type Westinghouse KA 100-ampere circuit breaker ranges between 500 and 1,000 amperes. The 225-ampere KA circuit breaker is adjustable between 350 and 2,250 amperes and such adjustments are usually made by changing the magnetic trip settings on the front of the circuit breaker.

Three-phase motors require protection against the harmful effects of excessive heating caused by overloading and single-phase operation. Usually this is obtained by thermal overload devices in circuit breakers and line starters (three-pole contactors) controlling such motors.

Thermal devices in line starters and circuit breakers protecting three-phase motors contain heater strips that are activated by heat generated by the flow of current and shall be rated at values not in excess of those specified in the 1968 National Electric Code and designed to cause all three phases to open when any phase is overloaded. Tables listing full-load current ratings for common size motors have been provided for all inspectors. The proper fuse size or thermal trip setting for motor-running protection is determined by the 1968 National Electric Code and varies from 115 percent to 140 percent of the full load current.

Fuses of the correct type and capacity are acceptable as overload protection only for d.c. or single phase a.c. circuits and motors. The proper selection is based on wire size, motor design, horsepower, and the method of starting. If the computed value is other than a common size, the next higher common fuse size or thermal element is acceptable.

The following shall constitute noncompliance with this section and requires corrective action: (1) Failure to provide either a fuse or automatic circuit breaking device to protect wiring and equipment against overloads and short circuits; (2) the use of rated fuses or circuit breaker settings that are greater than those specified in the 1968 National Electric Code; (3) defective circuit breakers or line starters, improperly adjusted circuit breakers, fuse rating too high for a particular application, and improper heater strips in line starters or circuit breakers protecting three-phase motors.

The installation of overload devices on locomotives operating on grades exceeding five percent can create an equally hazardous condition due to decreased braking power if the overcurrent protective devices open; therefore, noncompliance with this section shall not be cited for any mine until suitable automatic brakes have been designed and installed on locomotives and haulage cars.

No more than 15 feet of cable that is smaller in size than the power feeder shall be permitted to connect between distribution, circuit breaker, junction or switchboxes and the power feeder circuits unless additional short-circuit protection is installed at the outby end of the connecting cable.

75.519 Disconnecting switches. This provision applies to low- and medium-voltage power circuits entering a mine and to low-, medium-, and high-voltage power circuits at the bottom of shafts and boreholes. The requirements for disconnecting switches for high-voltage power circuits entering a mine shall conform to the provision of 75.802.

Oil switches, enclosed air circuit breakers, or oil filled fuse-type cutouts will be acceptable when these devices are used in conjunction with visibly opened accessories such as proper cable couplers that are

uncoupled after the circuit is deenergized. Unless fused-type and knife-blade cutout switches are designed for load-breaking duty on high-voltage circuits, such switches shall be used for disconnecting only when some other means such as a control switch is first used to induce tripping of a circuit breaker or deenergize the power.

75.520 Electric equipment; switches. All control devices shall be fully enclosed to prevent exposure of bare wires and energized parts. Improvised starting means such as plug and receptacle devices (i.e., Miller plugs), trolley taps and trolley wire "stingers" that are used to start and stop electric motors are examples of noncompliance with this provision.

75.521 Power conductors; lightning arresters. Conductors that are provided with metallic shields or that are jacketed by a grounded metal covering or enclosure, installed under grounded metal framework, or are buried in the earth are not considered exposed for the length so protected. If the trolley wire of a d.c. system is paralleled by an exposed feeder cable, one lightning arrester would provide protection for both if they are connected near the lightning arrester.

To comply with this section, alternating current circuits shall be provided with lightning protection for each ungrounded phase conductor. Three-phase circuits shall be provided either with separate lightning arresters or with a three-phase arrester which consists of three arresters in one case having a common ground terminal. Lightning arresters installed in the primary circuit of a transformer do not provide lightning protection in the secondary circuit.

Lightning arrester ground fields shall be separated from neutral ground fields by at least 25 feet. This distance prevents lightning surges from being transmitted to the neutral ground field where it could cause the frames of equipment grounded to the neutral field to become momentarily energized.

When the grounding connection on lightning arresters is connected to a ground field, the ground field shall be maintained with as low resistance to earth as possible, preferably less than 3 ohms and never more than 25 ohm resistance. The mine inspector shall request the assistance of the electrical inspector or electrical engineer if he has reason to suspect that a ground rod or ground field is inadequate. The only way that the resistance of a ground rod or ground field can be determined is to measure it.

TRAILING CABLES

75.600-1 Approved cables; flame resistant. Flame-resistant cables are marked at intervals no greater than 12 feet along the cable with an identifying number assigned by Approval and Testing such as P-201-BM.

75.601 Short circuit protection of trailing cables. Single element trolley fuses are not acceptable for trailing cable short-circuit protection unless specifically listed in the Federal Register as being approved by the Secretary. Dual-element fuses with adequate interrupting capacity may be used when applied in accordance with the Tables in 75.601-3.

Adequate current interrupting capacity means that the fuse or circuit breaker is capable of interrupting the maximum short-circuit current the circuit may conduct without destruction to the device.

In systems where small rectifiers such as those used to supply direct-current to shuttle cars that have both positive and negative lines ungrounded, short-circuit protection is necessary for both conductors of the trailing cable. A properly adjusted two-pole circuit breaker or approved fuses would be acceptable for this purpose.

Some visual means of disconnecting power from trailing cables shall be provided so that a workman can readily determine whether the cable is deenergized. Enclosed circuit breakers are not acceptable as visible evidence that power is disconnected. Plugs and receptacles located at the circuit breaker are acceptable as a visible means of disconnecting the power. These devices shall be plainly marked to lessen the chance of energizing a cable while repairs are being made to the cable. The loading machine cable disconnecting device shall be plainly marked (LOADER), the shuttle car cable disconnecting device shall be plainly marked (S.C. No. 1) or (S.C. No. 2) or the disconnecting device shall be readily identifiable by other equally effective means.

75.602 Trailing cable junctions. When two or more circuit breakers of different ratings are installed in the same power center and provide short circuit protection for cables of different sizes, some means shall be provided to prevent connecting the smaller cables to the large circuit breakers.

Compliance requires that plugs of different types or sizes connected to different size breakers be used for different size cables, unless the larger circuit breaker is adjusted low enough to protect the smaller cable in accordance with the Table in 75.601-1.

Plugs of the same size could be used for different size cables if dowel pins or other devices are provided to assure that each cable shall be connected to a circuit breaker of the proper size or by connecting the plugs and receptacles together with a short length of chain only long enough to permit the plug to be inserted into and withdrawn from the proper receptacle.

75.603 Temporary splice in trailing cables. A trailing cable that supplies power to any piece of electric equipment may be used for twenty-four production-shift hours after the temporary splice is made. The production-shift hours shall be counted whether the cable is used or not, in determining the "next 24 hour period."

The connection of the trailing cable made inby the strain clamp on cable reel equipment that does not have provisions for the trailing cable to enter the collector ring compartment shall not be considered a temporary splice. The method of cable attachment accepted in the approval of permissible equipment will be in compliance with this provision.

When a single conductor trailing cable is used, one temporary splice shall be allowed in the cable for a period not exceeding twenty-four production hours.

The conductors of a temporary splice shall be joined together so that the passage of current will not create excessive heat at the connection. All power conductors, ground conductors, and ground check conductors shall be properly spliced utilizing a proper splicing sleeve, ring, or clamp and each power conductor and ground check conductor shall be individually insulated with rubber tape or equivalent and the outer jacket shall be replaced by using rubber or neoprene tape or equivalent to provide an outer jacket as thick as the original. Friction tape may be used over the rubber or neoprene tape but shall not be used as the sole means of insulation.

Torn or damaged insulation on a trailing cable shall be reinsulated and will not constitute a splice unless a conductor is severed.

75.604 Permanent splicing of trailing cables. Materials listed by the Bureau's Approval and Testing section as flame-resistant for use in making permanent splices in trailing cables shall be used in complete accordance with manufacturer's instructions. Splice insulating kits shall be applied without any substitution or alteration of parts in order to duplicate the conditions under which the materials were tested and accepted. Any deviation would require additional evaluation or testing by the Bureau and if used without such evaluation shall constitute noncompliance with this provision. An acceptance number will generally be provided in the outer sleeving or jacket of permanent splices.

75.605 Clamping of trailing cables to equipment. If a strain clamp is used, it shall be insulated to keep the sharp edges of the clamp from puncturing the insulation and becoming grounded to the machine frame. A piece of fire-resistant conduit hose will be accepted as insulating material between a metal clamp and the cable. Cable grips, such as Kellems grips, anchored to the cable may be used in lieu of insulated strain clamps.

75.606 Protection of trailing cables. Trailing cables shall be placed away from roadways and haulageways where they will not be run over or damaged by mobile equipment. Where the method of mining requires that trailing cables cross roadways or haulageways, the cables shall be securely supported from the mine roof. If the height of the coal seam does not permit the hanging of cables and the method of mining requires that mobile equipment cross over cables, the cables shall be installed in a trench cut in the mine roof or mine floor.

A substantial bridge for the equipment to pass over cables would be acceptable as compliance if, in the opinion of the inspector, the cables were adequately protected.

Unprotected cables that are run over by any type of mobile equipment would be noncompliance with this section and would warrant the issuance of a 104(a) Order of Withdrawal.

GROUNDING

75.703 Grounding off-track direct-current machines and the enclosures of related detached components. "Related detached components" refer to associated parts such as contactor compartments, control switches, rheostats, etc., that are not installed on the frame of the machine. The metal frames or enclosures of such components shall be connected to the same grounding medium as the main frame of the machine to which it is related.

75.703-3 Approved methods of grounding off-track mobile, portable and stationery direct-current machines. Diode grounding of equipment is not acceptable on direct-current systems which have both the positive and negative polarities ungrounded.

Two suggested methods of testing silicon diode grounding circuits as required weekly by 75.512 may be conducted as follows:

A. Running Test. (Suitable precautions should be exercised during this test to avoid the danger of electrical shock.)

1. Start the pump motor on the machine being tested. Using a resistance such as a resistance-type welder set to a low amperage, pass current from the trolley wire to the frame of the machine. Assuming the current flow is higher than the trip setting of the ground trip relay, the pump motor will stop running thus proving that the ground trip relay is operating as it should.

2. Reverse the trailing cable connections (positive to track-negative to trolley, or vice versa.) Extreme caution shall be used during this step because the frame of the machine will become energized if the grounding diode is shorted. Check to make certain that the frame is not energized to verify that the grounding diode is functioning as it should.

3. If step 2 is all right, then attempt to start the machine. The machine will not start with the trailing cable connected in reverse if the polarizing diode is operative and properly connected in the control circuit.

B. Ohmmeter Test

1. Disconnect one end of each diode to avoid parallel circuits and test each diode on the forward and reverse directions to assure that they are not open- or short-circuited.

2. Test the overload relay by passing the required amount of current through to cause it to activate.

Each mine inspector should familiarize himself with the above testing procedure so that he will be able to determine whether the proper weekly tests are being conducted. During each regular inspection the inspector should make an effort to be present while a representative number of diode grounding circuits are being tested.

If the effectiveness of any grounding medium, ground protection method, or diode testing procedure is in doubt, the mine inspector shall request the assistance of an electrical inspector or electrical engineer.

75.706 Deenergized underground power circuits; idle days - idle shifts. Circuits supplying power to automatically controlled pumps shall be considered as being in use although the pumps may not be operating continually.

UNDERGROUND HIGH-VOLTAGE DISTRIBUTION

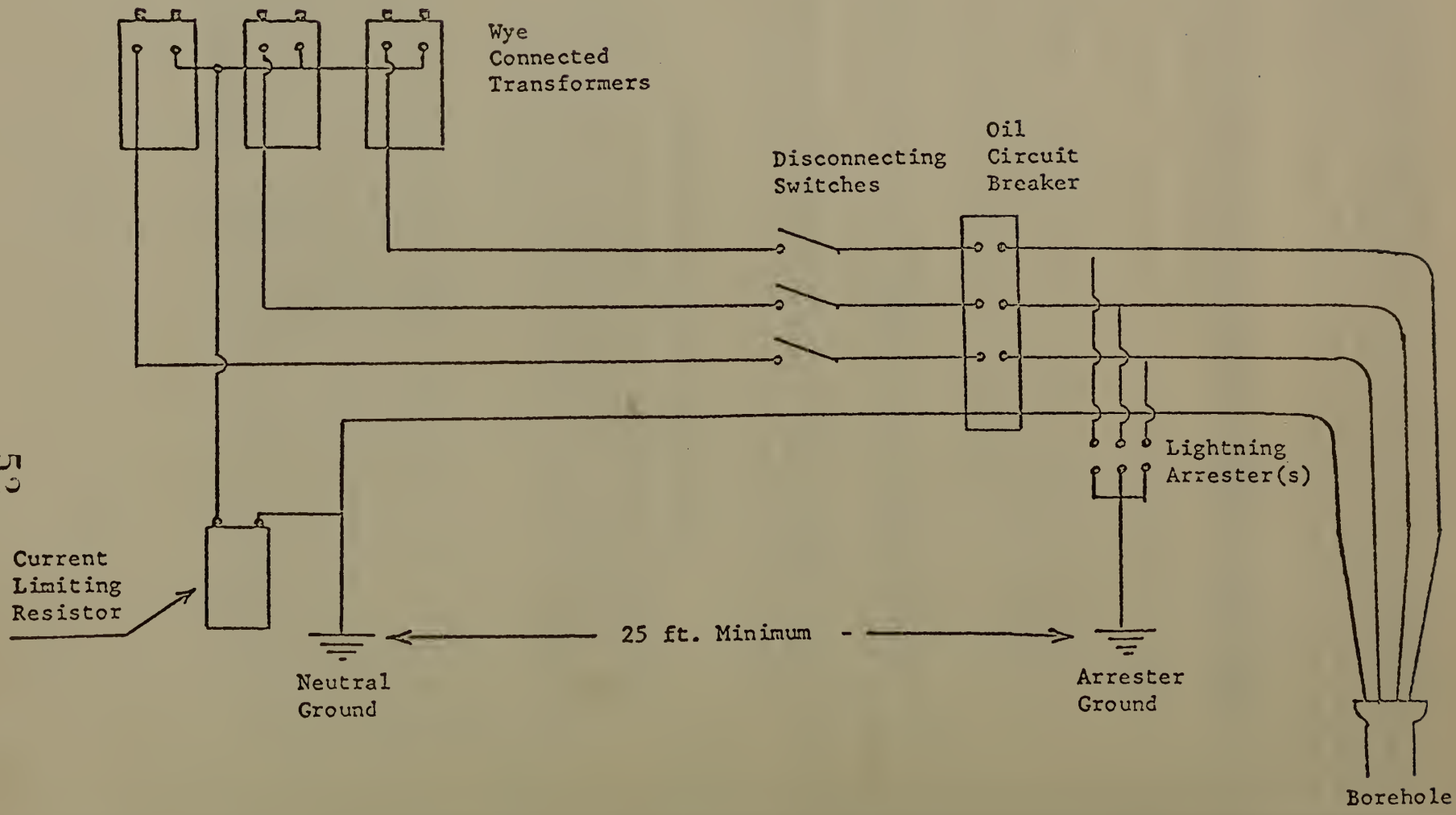
75.802 Protection of high-voltage circuits extending underground. "Ungrounded" means that no point of the system is intentionally connected to earth. Auxiliary devices required in 75.800 shall be provided in ungrounded systems to stationary underground equipment and connected to cause such circuit to be deenergized when a phase accidentally becomes grounded.

Each high-voltage circuit that extends underground, except ungrounded circuits to stationary equipment which are totally enclosed in steel armor or conduit, shall contain either a direct or derived neutral for grounding purposes. The neutral shall be grounded through a grounding resistor to a low-resistance ground field. The grounding conductors in the high-voltage circuit extending underground shall connect to the grounded side of the grounding resistor. Any other connection than this constitutes an extremely dangerous shock hazard. If an inspector has reason to suspect the adequacy of a high-voltage grounding circuit, he shall immediately request the assistance of electrical inspection personnel.

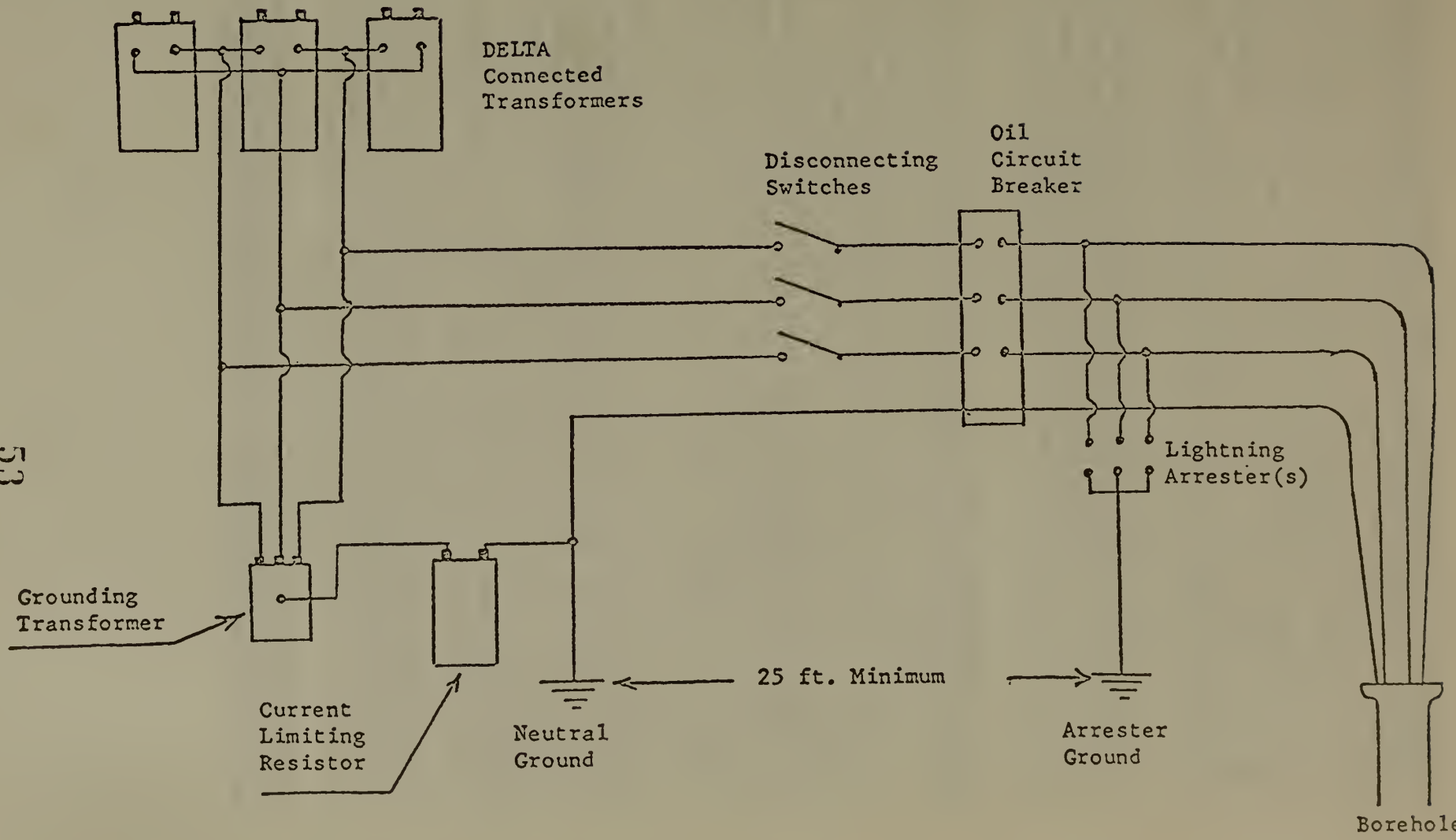
Electrical inspection personnel observing improperly connected grounding resistors and circuits shall require that the circuit be immediately deenergized and the situation corrected. If any difficulty is encountered in obtaining immediate compliance, a Closure Order shall be issued by electrical inspection personnel, closing the affected circuit.

The following sketches show in simplified form the proper method of connecting resistance grounded circuits extending underground.

WYE - Connected Power System with
Current Limiting Resistor



DELTA - Connected Power System with Grounding Transformer and Current-Limiting Resistor



75.803 Fail-safe ground check circuits on high-voltage resistance grounded systems. If an insulated conductor is used as part of a ground check circuit, the circuit breaker protecting the system shall have provisions to open when either the ground check conductor or ground circuit is broken, and it shall not be possible to reclose the circuit breaker under these conditions.

The ground check conductor may be internal or external with respect to the high-voltage cable. If an external ground check conductor is used with existing high-voltage cables, the wire size shall be at least No. 8 AWG, as required by 75.804, insulated, and shall be installed along with the existing cable.

Other fail-safe means of monitoring the continuity of a high-voltage grounding circuit and which would cause the circuit breaker protecting the system to open if the ground conductor is broken may be accepted as compliance after such systems are approved by a Bureau of Mines electrical engineer or electrical inspector.

75.804 Underground high-voltage cables. This section does not apply to cables of ungrounded high-voltage circuits that are enclosed in steel armor or steel conduit.

All cables, whether single or multiple conductor, shall be constructed with a metallic shield around the circumference of each conductor. If single conductor high-voltage cables are used, the cables shall be installed on a well supported messenger line and a proper ground conductor and ground check conductor must extend along with the power conductors. The messenger line can serve as the grounding conductor if the impedance of the grounding circuit is low enough to limit the voltage drop in the grounding circuit to 100 volts or less.

The conductor used for the ground continuity check circuit may be included internally in the high-voltage cable or may be provided separately. The size shall not be smaller than No. 8 AWG. When an external ground check conductor is used it shall be installed in such a manner as not to be unnecessarily subjected to mechanical damage. It would be feasible and acceptable to attach the ground check conductor to the outer jacket of the high-voltage cable, or to the messenger wire where such messenger wire is used to support the high-voltage cable.

Cables used in systems utilizing "other no less effective device approved by the Secretary or his authorized representative" as provided for in 75.803 for assuring ground circuit continuity, are exempted from the requirement to have an insulated ground check conductor.

Cables shall be selected and used in such a manner that they are able to carry the intended system load current without abnormal heating that would destroy the cable insulation. Underground high-voltage cables that do not

meet the ampacities in the IPCEA-NEMA tabulation shown in 75.513-1 of the Coal Mine Inspection Manual shall be in noncompliance with this section. The cables shall be rated for the system voltage.

To be in compliance, splices in such cables shall provide continuity of individual conductor shielding and the ground check conductors, and an overall jacket should be applied and shall be made in accordance with manufacturer's specification.

75.805 Couplers. Existing high voltage couplers that are not provided with terminal contacts for a ground check circuit may be used if a locking switch is added and arranged in such manner that the coupler cannot be uncoupled until the key is first inserted in the lock and the switch opened, thus breaking the ground check conductor. Any other connectors used for external ground check circuits shall be attached to the medium- or high-voltage coupler so that the ground check circuit will have to be broken first when the coupler is being uncoupled.

Cable couplers shall not be uncoupled before the circuit is deenergized.

75.807 Installation of high-voltage transmission cables. If the cable is located where guarding is necessary, plastic or grounded metallic pipe or some equivalent form of added protection may be used to prevent persons from contacting the energized cables.

Unless it is guarded or fenced, excess energized high-voltage cables shall be stored in unused crosscuts or other unused areas away from mine track or man trip stations.

Cables entering power centers or other portable equipment shall be securely clamped to the frame of the equipment in such a manner as to prevent strain on the electrical connections.

When high-voltage cables terminate at disconnecting switches or other devices having exposed energized parts, the installation shall be guarded by a fence or equivalent.

75.808 Disconnecting devices. A "branch line" means a circuit that is formed by connection to an existing high-voltage circuit for the purpose of feeding branch loads. Enclosed circuit breakers, oil filled cutout switches, and other devices designed for load break purposes which do not have a means of determining that the circuit is opened may be used in conjunction with cutout switches and cable couplers. The circuit must be deenergized before removing cable couplers as required by 75.607.

Open-type cutout switches that are not designed for load break purposes are not acceptable as compliance with this provision unless a means is provided to deenergize the circuit before the cutout switches are opened.

75.809 Identification of circuit breakers and disconnecting switches. The identifying markers for circuit breakers and disconnecting switches shall be large enough and located where they can be readily seen in the event that occurrences necessitate that the circuit be deenergized quickly.

Either metallic or plastic material may be used for the marker which should adequately identify the circuit (i.e. main pump No. 3 Rectifier, 1st Rt. 3 North, etc.) (13.2 KV, 4160, 2300, etc.) and show the circuit voltage.

75.810 High voltage trailing cables; splices. In general, the following procedure shall be followed in the making of splices in high-voltage cables.

1. The conductor shall be joined together by soldering or mechanical connectors.

2. Each individual conductor shall be insulated with high-voltage insulating tape to the same degree of insulation as the original cable.

3. The semi-conducting tape shall be replaced over the insulator.

4. The metallic shielding shall be replaced around each individual conductor and be continuous across the splice.

5. All grounding conductors shall be individually spliced.

6. The ground check conductor shall be reinsulated at least to the same degree as the original.

7. An outer jacket comparable to the original shall be placed over the completed splice.

UNDERGROUND LOW- AND MEDIUM-VOLTAGE ALTERNATING CURRENT CIRCUITS

75.901 Protection of low- and medium-voltage three phase circuits used underground. The neutral, whether direct or derived, must be grounded through a suitable grounding resistor to the high-voltage grounding system or other acceptable grounding medium.

Ungrounded low- and medium-voltage circuits may be permitted for supplying power to stationary electrical equipment such as pumps, belt drives, transformers, and such other equipment only if such circuits are either steel armored or installed in rigid steel conduit and grounded in accordance with 75.700-1.

Appropriate auxiliary devices as required in part by 75.900 must be included in the design of the circuit interrupter to cause the circuit to deenergize when a phase becomes accidentally grounded.

75.902 Low- and medium-voltage ground check monitor circuits. A study is presently underway to determine methods by which problems associated with trailing cables incorporating a pilot check wire may be overcome. Until such time as these determinations are made, the ground monitors should be disconnected and the pilot check wire reconnected as a grounding conductor. Although this decision may be in conflict with the requirements of some other agencies, in the interest of safety, this course of action must be taken at this time. A violation of this section shall not be cited pending further instruction.

Plug and receptacle-type connectors (Miller plugs) may be used to sectionalize trailing cables; however, when these devices are used in the face area of a mine required to use permissible face equipment, the connectors shall be of a permissible type. Sectionalizing connectors that are used outby the last open crosscut and supply power to permissible equipment need not be permissible, but shall be constructed to prevent accidental separation.

75.903 Disconnecting devices. A connecting plug on the outby end of the trailing cable with which the cable is connected to the power center or distribution box will be accepted as a disconnecting device. Molded case circuit breakers above are not acceptable as a visible disconnecting device. Other means, such as switches with visible contacts may also be acceptable for this purpose.

75.904 Identification of circuit breakers. Either metal or plastic tags or markers may be used to identify circuit breakers if they are attached securely to the circuit breaker enclosure and are large enough and placed so as to be readily seen.

75.906 Trailing cables for mobile equipment, ground wires, and ground check wires. Comments made in this Manual under 75.902 also are applicable under this section as far as trailing cable requirements are concerned. **Notice of violation shall not be issued for failure to provide trailing cables** constructed with a ground check wire and used with low- and medium-voltage mobile equipment pending further instructions.

TROLLEY WIRES AND TROLLEY FEEDER WIRES

75.1000 Cutout switches. Where trolley feeders parallel trolley wires, a cutout switch shall be installed in both circuits at the same point or reasonably close by to facilitate the opening of both circuits.

The practice of using jumpers to bridge a removed section of trolley wire or trolley feeder wire as a means of disconnecting power to infrequently used branch circuits shall not be accepted. (Example, stub feeders at turnouts or sidetracks where equipment may be parked or used as a passing point for equipment.) Only properly designed cutout switches shall be used.

75.1001 Overcurrent protection. In upgrading an existing sub-standard trolley system to comply with this provision the following factors must be considered:

1. The voltage of the circuit.

2. The settings of circuit breakers or the rating of fuses protecting the circuit.

3. The resistance of the trolley wire, track, and parallel feeder circuit.

Stated simply, we need only to reduce the resistance of any circuit sufficiently to allow the necessary current to flow under short circuit conditions to cause the over-current protection devices to open and deenergize the circuit.

Since the resistance of any conductor varies directly with its length, the resistance will decrease if the conductor is shortened. For this reason sectional insulators (dead blocks) should be used in the trolley and trolley feeder circuits to effectively divide a large direct current power system into two or more smaller separate systems which will materially reduce the resistance of the circuit between the rectifying substation and the farthest point of the circuit and greatly simplify compliance with this section. If opened trolley cut-out switches are necessary for use as dead blocks, they shall be locked open.

The trolley wire circuits and return circuit may be paralleled by additional conductors to lessen the circuit resistance to achieve compliance in some cases.

Sectionalizing breakers, properly adjusted and placed at strategic locations to assure protection against short circuit overloads will be acceptable.

In some cases, proper fuses protecting branch lines to low current loads may be acceptable. An example of this would be pumps in seldom-used track and trolley entries. Proper fuses or smaller circuit breakers would be acceptable for trolley circuits in supply track entries in belt mines.

Unless there has been an occurrence where the trolley or trolley feeder was in solid contact with the rail causing a short circuit that failed to open the circuit protective devices, noncompliance with this provision should not be cited until a deficiency is determined by a Bureau of Mines electrical engineer or electrical inspector.

75.1003 Insulation of trolley wires, trolley feeder wires and bare signal wires; guarding of trolley wires and trolley feeder wires. Guarding shall be done with wood, plastic or other substantial, nonconductive material, firmly secured.

Adequate guarding means that it shall extend for at least six feet from each side of the door or stopping.

In advancing sections where the trolley wire or trolley feeder wire is extended beyond the track or in retreating sections where the track is removed before the trolley or trolley feeder wires, suitable guarding shall be required between the ends of such wires and the end of the tracks.

The mine inspector shall not hesitate to require additional guarding of trolley wires at all locations where he considers a potential shock hazard to exist.

Equipment being moved along or across track entries from one location to another shall be guarded for the entire length of the equipment so that the equipment cannot contact the trolley wire or trolley feeder wire. Guarding material for such application shall be of fire-resistant nonconducting material, such as fire-resistant conveyor belting.

75.1100-1 Type and quantity of fire fighting equipment. Firefighting equipment required under this subpart shall meet the following minimum requirements:

Waterlines Water lines, with hose attached, shall be of sufficient size to deliver 50 gallons of water per minute at a nozzle pressure of 50 psig. With this water flow and nozzle pressure, an effective solid stream can be projected about 60 feet in a 6-foot-high entry. Water flow through the nozzle can be measured by a pitot tube instrument, if the diameter of the nozzle orifice is known. For adjustable nozzles, the rate of flow decreases slightly as the water flow pattern changes from solid to spray to fog.

The minimum rate of 50 gpm shall be available at the most distant point in the mine. The method of installation of water lines is an option of the operator as is the material of which the pipe is constructed.

Portable water cars Portable water cars shall be examined during each regular inspection to insure that the pump, valves, and fittings have not corroded excessively.

Portable chemical car A portable chemical car shall contain 125 pounds of all-purpose dry powder for each 500 gallons of water capacity required of a water car. The car shall contain provisions for expelling the dry powder through a hose and attached nozzle. The hose shall be a minimum of 100 feet long and a maximum of 150 feet long. Due to the complex design of an effective dry powder system, portable chemical cars should be purchased from a reputable manufacturer. The dry powder is expelled quite rapidly; therefore, fire fighting operations using a portable chemical car should be conducted by personnel trained in its use.

Portable foam generating machines or devices The portable foam generating machine shall be equipped with all hardware necessary to install the device in a mine passageway. Generally, plastic brattice (or equivalent) material is needed to seal the entry at the installation location. The foaming agent tends to be corrosive to metal parts and unless the machine is carefully cleaned after use, the valves, pump, and fittings may become inoperative.

Portable fire extinguisher Only chemical foam and all-purpose dry-powder portable fire extinguishers are acceptable. Most 5-pound dry-powder extinguishers purchased before March 30, 1971 contain slightly less than 5 pounds of all-purpose powder as the container was originally designed for sodium bicarbonate which is slightly more dense than the all-purpose powder (ammonium phosphate). These extinguishers are acceptable. The older type sodium bicarbonate extinguishers can be converted for use with all-purpose dry powder if all sodium bicarbonate powder residue is removed (mixing even a small amount of dry chemical with a different type dry chemical could cause a pressure buildup in an extinguisher and result in an explosion). It would also be necessary that proper fittings be used, and the extinguisher should be labeled to show that the conversion was made.

The nominal 5-pound dry-powder extinguishers purchased after March 30, 1971 will contain slightly more than 5 pounds to meet the 2A 10 BC rating. The letters A, BC refer to the class of fire for which the dry powder is effective and the numerals 2 and 10 refer to the size of the standard fire for which the extinguisher is effective.

Class A fires are those occurring in solids such as coal, wood, rubbish, textiles, and rubber.

Class B fires are those occurring in flammable liquids such as fuel oils, lubricating oils, grease, paint, varnish, and lacquer.

Class C fires are those in live, energized electrical equipment. Where electricity is involved in a fire, the electric circuit should be broken or deenergized as soon as possible.

The regulations do not specifically preclude the use of other extinguishing agents provided the minimum requirements are met. In general, the use of carbon dioxide extinguishers is not considered effective for use in coal mines because of the diluting effects of the ventilating air currents.

Fire hose specifications Fire hose suitable for use in coal mines must meet specific requirements. The lining material shall pass the Bureau's test given in Schedule 2G to limit the flammability; generally the lining will be a synthetic rubber (neoprene). The jacket shall be polyester or equivalent. When subjected to flame, the polyester jacket will melt and burn somewhat; however, the polyester is mildew resistant and more vermin resistant than other jacket materials. The flammability characteristics of the polyester jacket can be reduced by chemical treatment or by an impregnation of synthetic rubber of the type used for the liner; such hose is highly recommended but is not necessary to meet the minimum specifications. The impregnated jacket will have greater abrasion resistance also.

The bursting pressure of the hose shall be at least 4 times the static pressure at the hose inlet. All reputable hose manufacturers use this criterion as a design figure. The hose couplings should also withstand the required bursting pressure. Couplings approved for fire hose by the Underwriter's Laboratories, Inc., or Factory Mutual Laboratories are recommended. Short shank couplings (of the type ordinarily used on water or air hose) will blow off at pressures ranging from 300 to 600 psig even if fastened with two hose clamps. These couplings are not recommended by the manufacturer for fire hose; however, in a few instances, where the static pressure is less than 120 psig, they might meet the minimum requirements of the regulations provided the water flow rate of 50 gpm through the nozzle is obtained. Because these couplings cause excessive pressure drop for the water flow, it is important to insure that the minimum quantity of 50 gpm is met.

The regulations state that the maximum water pressure in the hose nozzle shall not exceed 100 psig. Subsequent to the preparation of the regulations, tests showed that the water flow rate at a nozzle pressure of 100 psig is too low for effective fire fighting and that the hazard from the physical forces generated at the nozzle from the water flow are not as large as was anticipated. Hence, this regulation is too restrictive. Measures are in progress to clarify this requirement. Pressures in excess of 100 psig at the nozzle can be tolerated if the mine operator and miners using the fire hose are aware of, and can control the physical forces generated by water flowing through the nozzles.

Fire hose purchased prior to December 30, 1970, may be used if it meets all requirements except those for flammability. A list of approved fire hose is not available at this time; therefore, an inspector having reason to doubt the acceptability of a specific hose should obtain all available manufacturers' specifications, and check with the manufacturer or ask for clarification from the Testing and Approval Group of the Health and Safety Technical Support Center in Pittsburgh, Pa. By informal agreement, most manufacturers of fire hose mark each length of hose to be in accord with the regulations at either end within 4 feet of the coupling.

75.1100-2(a)(1) Working Section in mines producing 300 tons or more of coal per shift. Each working section in the mine shall be provided with one of the combinations of firefighting equipment listed below.

Fire Suppression Equipment	Allowable Combinations and Number Required						
Portable Fire Extinguisher	2	2	2	2	2	2	2
240 Pounds of Rock Dust	1	1	1	1	1	1	1
Waterline with Firehose	1						
Portable Water Car		2		1	1		
Portable Chemical Car			2			1	1
Portable Foam Gen. Mach.				1		1	
Portable H. P. Rock Dust. Mach.					1		1

Average daily production figures shall be obtained from information submitted in accordance with procedures as required by the respirable dust information reporting system.

Rock dust shall be dry and usable to comply with this section. If containers other than bags are used, a means of transporting the rock dust, such as shovels, pails, etc., to any location on the section shall be provided.

Where waterlines are installed on a section, sufficient fire hose shall be provided to reach from the water outlet to each working face for fire-control operations. Water hose, ordinarily provided in a section and connected to machines for dust-suppression purposes shall be considered inadequate as fire hose if the rate of water flow through the hose and nozzle is less than the required 50 gallons per minute.

75.1100-2 (a)(2) Working section in mines producing less than 300 tons of coal per shift. Each working section in the mine shall be provided with one of the combinations of firefighting equipment listed below.

Fire Suppression Equipment	Allowable Combination and Number Required			
Portable Fire Extinguisher	2	2	2	2
240 Pounds Rock Dust	1	1	1	1
500 Gal. Water with 3 ten quart pails	1			
Water Line with Fire Hose		1		
Portable Water car (500 gal) with hose			1	
Portable all Purpose Chemical Car (125 pound)				1

If 500 gallons of water and 3 ten-quart pails are provided, the water supply shall be available for transportation to any location on the section.

Where water cars are used as section fire protection equipment, the water cars shall contain no less than the minimum amount of water required at all times. If the water cars provide water for dust abatement, etc., additional cars or water capacity shall be provided to insure the availability of the minimum amount of required water at all times.

Firefighting equipment provided for working sections in all coal mines shall not be located outby the loading point, but shall be stored in an accessible location at or inby the loading point.

75.1100-2 (b) Belt conveyors. The waterline required by this section can be located in an adjacent entry, but outlets, with valves must project into the belt entry every 300 feet. Fire hose, connected to a water line and projected into the belt entry will not be considered adequate, since the valve must be located in the belt entry.

Five-hundred feet of fire hose shall be provided for each belt conveyor which is independently driven. Where one belt conveyor empties onto another, at least 500 feet of fire hose shall be stored at strategic locations along each belt conveyor flight. Where the length of belt conveyor flights are less than 500 feet, sufficient hose to reach the entire length of such belt conveyor shall be provided.

Direction of air current along the belt, amount of fire hose, height of coal seam and availability of transportation for men and materials must be considered to determine strategic locations for storing fire hose along belt conveyors. Ideally, the fire hose should be stored on intake air near the belt conveyor drive, but conditions may dictate that another location is suitable, or that a separation of the hose into two or more sections is necessary. Any tools or accessories required to join hose pieces or connect fire hose to the water line shall be stored with the fire hose, and be easily accessible.

Water lines are not required to parallel extensible and lo-lo conveyor belts serving mining machines if the length of such belt is less than 600 feet and sufficient fire hose is available to extend to the working face, nor are fire suppression devices and signal and alarm systems required to be installed along such conveyor belts. However, the belts, considered as face equipment, must have fire protection at the belt drive as specified in Section 75.1100-2(e) for permanent electrical installation and, if hydraulically operated, must have fire suppression devices as provided in Section 75.1107.

75.1100-2(c)(1) Haulage tracks. In mines producing 300 tons of coal or more per shift all track entries in which mechanized equipment is used shall be protected by suitable fire-fighting equipment. Where waterlines are used, a minimum of 500 feet of fire hose shall be located at a readily accessible location and plainly marked. Crosscuts, runarounds, sidetracks, etc., may be provided protection from one waterline, if the outlet valves are located in a manner which allows 500 feet of fire hose, connected to one of the valves, to reach any track location.

Where two portable water cars are used in lieu of waterlines prescribed in this section, each water car shall operate individually and not be dependent on another water car for pump, hose, nozzle or water. Where two or more adjacent mines are connected by track, one of the water cars required for each mine may be considered to be a common unit. All water cars shall be located on intake air as near the entrance to the mine as conditions permit and shall be properly filled, equipped, and ready for use at all times.

75.1100-2(c)(2) Haulage tracks in mines producing less than 300 tons of coal per shift. If rock dust is used as fire protection along such haulage tracks, the rock dust shall be in a dry, usable condition at all times.

75.1100-2(d) Transportation equipment. One portable fire extinguisher is also required on each battery powered tractor.

75.1100-2(e) Electrical installations. (1) A permanent electrical installation includes any electrical apparatus consuming or providing power or containing flammable fluids, which will remain in the same location for a period of six months or more. Rectifiers, power centers, oil filled transformers, battery charging stations, belt conveyor drives, pumps, compressors, etc., shall be

considered electrical installations. Disconnecting devices, cut-out switches, junction boxes, distribution boxes, pumps installed on water cars or other equipment, etc., shall not be classified electrical installations requiring firefighting equipment.

At permanent electrical installations where only one fire extinguisher is provided, it must be a 10 pound dry chemical extinguisher or have a 2A 20BC or higher rating. Foam extinguishers are not acceptable at electrical installations.

(2) A temporary electrical installation includes any electrical apparatus consuming or providing power or containing flammable fluids which will remain in the same location for a period less than six months. Fire extinguishers and rock dust provided on a working section, under Section 75.1100-2(a) shall be considered adequate protection for temporary electrical installations located inby the section loading point.

Portable battery charging stations shall be considered temporary, if the battery receiving a charge is not removed from its machine and the charging procedure is conducted in an open entry with good ventilation.

75.1100-2(f) Oil storage stations. This section does not apply to synthetic ester types of fire resistant hydraulic fluids.

Storage underground of more oil than is normally delivered to the working sections shall be considered a permanent oil storage station.

75.1100-2(g) Welding, cutting, or soldering. When welding, cutting, or soldering operations are conducted on a working section, the firefighting equipment provided under Section 75.1100-2(a) may be used at the welding, cutting, or soldering site to fulfill this requirement.

75.1100-2(i) Emergency materials. (1) If 5 tons of rock dust is readily available, within 2 miles of each working section, loaded in or on a wheeled vehicle, it does not have to be located with the other emergency materials. All other emergency materials shall be stored together and shall be readily accessible at all times.

(2) When emergency material is stored at a central warehouse or building supply company, the mine operator and warehouse management must satisfy the inspector that the material will be available for shipment to the mine at all times.

75.1100-3. Condition and examination of fire fighting equipment. All fire-fighting equipment shall be maintained in a usable and operative condition. Rock dust shall be dry, water cars shall be filled and operative, water containers and pails shall be in usable condition and chemical extinguishers shall be examined every six months. The inspection procedure for chemical extinguishers should determine that:

(a) The extinguisher is in its designated place.
(b) Access to or visibility of the extinguisher is not obstructed.
(c) Any seals are not broken as an indication that they are full. Some extinguishers have to be lifted slightly to determine if they are full.
(d) The extinguisher has not been physically damaged or have any obvious defects (clogged nozzle, corrosion, leakage, damaged hose, etc.).
(e) The record tag is up to date.

75.1101-1(a) and (b), 75.1101-2 and 75.1103-1. Fire suppression devices at belt drives. The basic requirements for water deluge fire suppression installation at a belt drive are listed in the Federal Register. The following additional features are to be considered and, unless deemed not necessary by the District Manager, shall be included in the installation: (a) When activated, the sensor system (or water flow) should stop the belt, (b) sensors and nozzles should be located at or near the electrical controls, belt take-up and gear reducing units, (c) a manually operated by-pass valve, located away from the belt drive should be installed to furnish water to the suppression system in the event the automatically-activated valve fails to open, (d) the sensor system should be provided with a standby power source maintaining an operative system for a minimum of 4 hours. Battery powered sources which are automatically connected into the system when the belt drive power is disconnected, or obtaining power for the operation of the deluge system outby the belt power source are acceptable methods of providing standby power, (e) when activated, the sensor (or water flow) shall operate an effective alarm signal, preferably both audible and visual. The warning signal must be located at a site where someone is in constant attendance, such as an attended belt loading point, section loading point, dispatcher's office, shop, mine office, lamp house, etc., (f) the sensor system shall include a warning indicator (or test circuit) which shows it is in operative condition, (g) the system shall require manual shut-off.

The installation of the water deluge system requires 2 branch lines to provide water on the top of the top belt and to the surfaces between the two belts. Such a system presents an optimum water flow pattern for fire control. Single branch lines, generally located at the top belt ordinarily do not offer an equivalent flow pattern; however, pending the results of research, the following single branch line system can be considered equivalent.

(a) The entry width shall not exceed 16 feet and the entry height shall be not less than 6 feet.

(b) The static water pressure shall be not less than 250 psig and the quantity of water delivered with all nozzles operating shall be not less than 1.0 gallon per square foot of top belt surface area per minute.

(c) The nozzles shall be mounted above the top conveyor belt near the roof. With this arrangement, reasonable water coverage of the belt surfaces is achieved by splashing action.

The maximum distance between nozzles should not be more than 8 feet to achieve a reasonable water spray pattern. In general, the nozzles need not be closer than 6 feet apart.

The regulations require that 50 feet of fire resistant belt and 150 feet of non-fire resistant belt adjacent to the drive be protected. Depending on ventilation, design and belt arrangement, this 50 (or 150) feet of protected belt should begin at the discharge roller if the discharge roller and drive roller are no more than 25 (or 75) feet apart. Where the discharge roller and drive rollers are more than 25 (or 75) feet apart, the protected area should include 25 (or 75) feet of adjacent belt in each direction from the drive roller. Where air velocity is a factor, the greater part of the protected area should be downwind from the drive roller.

The type, number, and location of the sensors are critical features of a water deluge system. There are about a dozen basic types of sensors which can be used: fixed temperature (heat), rate of temperature rise, rate compensation, radiation, ionization, combustion gases, smoke, heat detecting wire, pneumatic tube type, resistance bridge type.

The location of the sensors should in general be in accord with the recommendation of the manufacturer. Sensors responding to heat should be located near the roof, preferably above the belt, drum drives, powered take-up unit, transmission, and motor. Often one sensor can be situated strategically to serve two of the possible hazardous units.

75.1101-5 Installation of foam generator systems. Automatically operated high expansion foam devices may be used for fire suppression at belt drives. The capacity of the unit shall be sufficient to cover 50 feet of fire resistant belt conveyor (150 feet of non-fire resistant belt) as well as the take-up and gear reducing units and electrical controls with foam in 5 minutes. In calculating the capacity, the volume of foam generated need not fill the entry to the roof but rather to fill the entry to the top belt.

Generally the foam generator should be located on the intake air side of the belt drive and other protected components so as to take advantage of the ventilating air in moving the foam and so that air, uncontaminated by smoke and hot gases, will enter the foaming unit. Smoke and hot gases in the intake air to the unit decrease the efficiency of foam generation. The warning device actuated by the sensor or foam generator should be located where a miner is in constant attendance.

The foaming agent used in most foam generators tend to corrode metal parts. Therefore, care should be taken to flush out and clean the unit after being in operation.

The development of a foam plug in a passageway will affect the ventilation pattern. If the belt is in a natural passageway smoke will be trapped in the entry decreasing visibility and use of travel.

75.1101-7 Installation of water sprinkler systems; requirements. Sprinklers used for fire suppression at belt drives shall be connected to two branch lines so that an effective water discharge pattern is produced. The sprinklers should be located to be actuated by the heat from a potential fire. Even in ventilated passageways the heat will rise to the roof.

The sprinklers may operate in the temperature range 150°F to 300°F. Generally the sprinklers which operate at a low temperature will respond to a fire more quickly than those operating at a high temperature. However, this difference in time is not considered to be as critical as proper location of the sprinklers. Under some circumstances sprinklers operating below 212°F may be actuated by steam. If a large number of sprinklers are operated by the steam the quantity of water flowing through these may decrease the quantity of water through those sprinklers in the fire area.

Sprinklers can not be tested directly for the yearly examination without destroying their usefulness. To test a sprinkler system the end sprinkler should be removed to insure proper and adequate water flow; the sprinklers should be clean of dirt and all damaged sprinklers should be replaced.

Although the specifications require two branch lines a single branch line of sprinklers over the belt can be used as an equivalent system provided:

(a) The entry width should not exceed 16 feet and the height shall be not less than 6 feet.

(b) The static water pressure shall be not less than 250 psig and the quantity of water delivered with all sprinklers operating shall be not less than 1.0 gallon per square foot of top belt surface per minute.

(c) The sprinklers shall be mounted above the top conveyor belt near the roof. With this arrangement reasonable water coverage of the belt surfaces is achieved by splashing action.

The maximum distance between sprinklers should not be more than 8 feet and the minimum distance should be about 6 feet. If sprinklers are too close together the cooling action of the water from one sprinkler may affect the operation of another.

In the normal sprinkler system the lines are filled with water. Where freezing temperatures exist the pipes may freeze and burst or ice may form and plug the lines. Alternative systems have been developed for this situation as:

(a) Regular dry pipe system.

(b) Pre-action system.

(c) Deluge system.

(d) Combined dry-pipe and pre-action system. These alternative methods are acceptable provided they offer equivalent protection and are installed in accordance with the Provisions of the Fire Protection Handbook published by the National Fire Protection Association.

75.1101-15 through 75.1101-22 Dry-powder chemical systems. Suppression at belt drives by all purpose dry-powder was included to serve primarily where freezing temperatures exist. The dry-powder system operates in a short time (1 minute) whereas the deluge or sprinkler system operates for 10 minutes or longer. Therefore, the dry-powder system must be carefully designed to be effective. The discharge pattern from the nozzles is critical, normally the locations of the nozzles shall be designed by an expert. Damaged or misaligned nozzles should be replaced promptly. The dry-powder system consists of an open pipe line system. To prevent moisture and dust from entering into the pipes the nozzles should be loosely covered. This can be achieved by tape covering, by water proof grease or equivalent means. Caps that are tightly fastened should be checked to insure they will blow off readily; screw caps are unacceptable. If grease or similar material is used the orifices should be checked to insure the material has not hardened.

When the dry-powder system operates the passageway becomes filled with a dense dust cloud (ammonium phosphate). This material is nontoxic but can make breathing difficult and vision poor. For this reason guard rails or equivalent devices must be provided for the safety of miners in the immediate vicinity.

After operation of the system the pipe lines must be blown clear. If dust remains in the pipe it will absorb moisture and may cake. The all-purpose powder is slightly corrosive to metal parts especially when wetted. Thus metal equipment and components of the fire suppression system should be cleaned.

The yearly test of the suppression system can be made by checking the powder storage compartment and the gas expelling unit and by blowing compressed air through the piping. It is important to insure that the dry powder is not exposed to the humid atmosphere. If so, it will absorb moisture and cake. It is recommended that the dry powder be discharged through the system every two years.

75.1104 Underground storage, lubricating oil and grease. Portable, closed metal containers are considered to be of fireproof construction for temporary storage of lubricating oil and grease in face regions and other underground working places. Small vessels should be of the "safety can" type approved by the National Fire Protection Association. No additional storage container is required for grease gun cartridges stored in face regions and other underground working places, provided they are kept in their shipping containers.

Underground storage places for lubricating oil and grease shall be of fireproof construction, in that all sides, roof, and floor must be composed of incombustible material. Concrete, concrete block, cinder block, or plastered

wire-mesh fastened on substantial framework (or equivalent) are acceptable. The framework should be metal but flame-retardant wood, bearing Underwriters' seal, may be used also. The floor should preferably be concrete to facilitate removal of spillage. Loose floor material as sand, cinders, or limestone dust will absorb spilled oil and grease and become flammable.

The storage of fire resistant hydraulic oils needs special consideration. The water in most emulsion-type oils will evaporate from spilled pools; after this evaporation, the residue is highly flammable. Synthetic-ester and similar fire-resistant hydraulic oils differ in composition and remain fire retardant after spillage. Where spillage is a factor (oils transferred from one container to another) the emulsion-type hydraulic oils should be stored and considered as flammable.

75.1105 Housing of underground transformer stations, battery-charging stations, substations, compressor stations, shops, and permanent pumps. Power centers, rectifiers, battery chargers, and transformer stations, using dry-type transformers or transformers filled with nonflammable fluid or inert gas, manfactured as package units and fully enclosed in metal housings shall be considered to be of fireproof construction.

Compressor stations, shops, permanent pumps, and battery-charging stations, where batteries are removed from the machine for charging and storage, are required to be enclosed in structures with the sides, roof and floor composed of incombustible material. Where such structures are built, naturally incombustible surfaces of the roof, rib, or floor may be utilized.

75.1106 Welding, cutting, or soldering with arc or flame underground. A person will be considered qualified for testing for methane and for oxygen deficiency if: (1) he has been qualified for this purpose in the state in which the mine is located, and (2) he has been qualified for this purpose by the Secretary. No person shall be a qualified person for testing for methane unless he demonstrates to the satisfaction of an authorized representative of the Secretary that he is qualified to test for methane with a portable methane detector approved by the Bureau of Mines.

75.1106-2(c) Transportation of compressed and liquid gas cylinders. This section does not prohibit the transportation on mantrips of Dewars used with supplied-air breathing devices or oxygen bottles for self contained breathing apparatus or for first-aid treatment.

75.1106-3(b) Storage of compressed and liquid gas cylinders. This section does not require that the cylinders be constantly attended while repair work is in progress and cutting or welding is done intermittenly. However, the cylinders must be removed from the area inby the last open crosscut when the repair work is completed or when repair work is interupted for periods of time in excess of 15 minutes.

75.1106-3(c) Compressed or liquid gas cylinders not in use. The term "when not in use" is not intended to be applied to intervals between intermittent cuts or welds at a given location while work is in progress and the cylinders are attended.

75.1107-1(a)(1) Unattended underground equipment. Equipment consuming more than 2,250 watts of electricity has reference to equipment driven or operated by power equivalent to a 3 hp or larger motor.

75.1107-1(a)(2) Approved fire-resistant hydraulic fluids. Under this section a gear- or belt-driven machine with a hydraulic brake system, power steering or other secondary use of a hydraulic power, should be equipped with either approved fire-resistant hydraulic fluid or a fire suppression device.

75.1107-1(b) Fire suppression devices. All unattended electrical equipment, whether using hydraulic oil or not, if consuming 2,250 watts or more (3 hp or greater) must be equipped with a fire suppression device. This includes rectifiers, transformers, motor-driven equipment, pumps, air compressors, battery chargers, car spotters, and the like, but not power distribution centers.

75.1107-1(c) Attended equipment. In preparing this definition of attended equipment an attempt was made to be as specific as possible and to include face equipment normally used in mining coal. The underlying thought was that the machine would be in line of sight of a miner at least once during a 30 minute period. If the normal duties of a miner required him to face in one direction opposite to that of a machine, as for example at a belt discharge point, it can be assumed that the miner will turn his head to a machine behind him often enough to comply with the 30 minute requirement. However, if a machine is closer to a miner than 500 feet but is around a corner, it would be classed unattended unless the normal duties of the miner required him to pass by the obstructing corner during 30-minute intervals.

75.1107-1(d) Deenergizing equipment. This section requires that machines normally used at the face should be inspected (for fire) and the input power line deenergized when the miner leaves the area for more than 30 minutes. Deenergization means disconnecting the power cable, or equivalent, at the power center.

75.1107-3(a)(b) Fire suppression devices; approved components. Installation requirements. The purpose of the (a) part of this section is to insure that the components of the fire suppression device are of the type approved by the Underwriters Laboratories or Factory Mutual Laboratory (UL or the initials FM in a diamond shaped box will be on the components or device). Generally the Underwriters Laboratory approves the whole system whereas Factory Mutual approves components. Some hardware components on a fire suppression device such as nuts, bolts, clamps, brackets, and the like need not bear Underwriters or Factory Approval, but sound engineering judgment should be exercised in overall approval of such a device.

In regard to the (b) part of this section, many equipment manufacturers provide instructions on the method of installation and use of fire suppression devices. As the manufacturers inherently have concern that their product is used to its best advantage, consideration should be given to

their instructions. However, most manufacturers have limited experience and knowledge of underground mining conditions; here again sound engineering judgment must be used.

75.1107-4(a) Fire suppression devices minimum requirements. The date "March 30, 1971" is in error and should be taken as "March 30, 1972." Formal action is in progress to make this correction.

75.1107-5(a)(1) and (2) Automatic fire sensors and manual actuators. A point-type sensor is a bi-metal strip contactor, thermocouple, or similar device. If other sensors (plastic-covered wire, radiation, gas, smoke) are used equivalent protection shall be provided. Manual application at a sprinkler system should consist of a water-hose-nozzle arrangement or equivalent in the immediate vicinity. This type back-up system is also desirable for other suppression devices.

The date "March 30, 1971" is in error and should be interpreted as "March 30, 1972." Formal action is in progress to make this correction.

Two or more manual controls shall be installed where practical. "Where practical" has reference to the size of the machine protected and possible avenues of approach. One control, for example, may suffice on a small roof-drilling machine. Normally the two controls should be on opposite ends or at least one of them in a position away from the operator's cab. The purpose of the two controls is to offer choice of operation should fire, heat, or smoke engulf one set of controls.

75.1107-5(b) Automatic fire sensors. Sensors should be located where they can respond most efficiently to potential fires. The ventilating current, physical arrangement of the protected equipment, past experience and good judgment are factors affecting its location.

75.1107-5(c) Installation of fire suppression devices. The purpose of the requirement of standby power for 4 hours after the main power to the protected equipment is cut off is to insure that the potential fire hazard is controlled for a reasonable period of time after power is cut off, should the equipment be overheated during its operation or should it have failed electrically causing the short circuit and the power failure. Criticism has been given this regulation because in some instances an isolated power source for the sensor (potential source for igniting methane) would be present in the mine even if all power were cut off at the cables feeding the mine. This is partially true. Such circumstances will not arise if:

(a) A sprinkler system is used.
(b) Pneumatic or hydraulic controls are installed.
(c) A pressurized water tank is installed.
(d) The electrical components of the sensor system are permissible.
(e) Equivalent control over the potential fire hazard is achieved.

Equivalemt control over the potential fire hazard can be achieved by methods (a) (b) and (c) or by inspecting for overheating and fire when

the power to the equipment is cut off either by accident or by intent. In this instance, a 4-hour stand-by source would not be required for the sensor. Consider the following examples: An unattended rectifier is used to supply power to a loading machine whenever a power failure occurs or at the end of the coal-mining shift. If the power cable feeding the rectifier is disconnected (or equivalent), the rectifier is examined for overheating and fire. In this instance the 4-hour stand-by power supply to the fire-suppression device is not mandatory. For a second example, consider an unattended pump draining a sump. The pump is left running when men leave the mine. In this instance, even though the operating pump is inspected when the miners leave, a stand-by power source for the fire suppression device would be required unless conditions (a) (b) or (c) of this paragraph are met. The regulations do not require installation of an audible alarm or that a signal indicating a fire has occurred be transmitted to a constantly attended location. These are desirable features but are not mandatory.

75.1107-5(e) Fire sensor testing. The purpose of this regulation is to provide a means to show that the fire suppression device is operative. The test arrangement or warning indicator may be built into the fire suppression device or may be external to the device.

75.1107-7(a) Capacity of fire suppression devices. These are general requirements for fire suppression devices which permit the inspector to require proper devices, particularly for unusual conditions, to insure that adequate fire control will be achieved.

75.1107-7(b) Fire suppression devices; location and direction of nozzles. These requirements relate to the design of the fire suppression device and define hazardous locations on equipment. Where practical, the extinguishing agent should be applied to the seat of the fire. For example, dry powder applied externally to a semi-enclosed rectifier would not effectively extinguish an internal fire although it would reduce the chance of fire spreading to surrounding combustibles. A better device would direct the dry powder internally into the rectifier. However, a sprinkler or water deluge external to the rectifier would, if properly applied, quench the flame and cool the overheated metal parts.

An attempt is made in sections (b)(1) and (b)(2) to define the hazardous locations on a mining machine. Past history shows that fires often originate at (1) exposed electric power cables subject to flexing, (2) hydraulic components adjacent to electrical cables, and (3) cable reel compartments.

Considering the wide variety of machines, equipment, and arrangements within machines used in coal mines, it is difficult to pinpoint exact hazardous locations. Fires are initiated by electrical failure. Fuel is provided by insulation, hydraulic oil, and coal accumulations. Isolated hydraulic equipment, such as a ram, well removed from electrical components, to shift a loading boom, would not be considered a hazardous location. Rubber tires will burn and are difficult to extinguish when ignited but the tires are generally ignited when a hydraulic oil fire is not quenched

in its incipient stage; tires are not a hazardous location. Wheel wells are borderline; they can be considered as a hazardous location if significant hydraulic compartments are present. It is not mandatory that wheel wells be considered as a hazardous location in all instances.

In most mining machines all of the hydraulic hose and piping, because of their wide extent, cannot be protected by a suppression device; those portions of hose and piping adjacent to the electrical cables are considered hazardous locations. Internal hydraulic compartments and manifolds are for the most part hazardous locations.

75.1107-8(a) and (b) Water spray devices; capacity; water supply; minimum requirements. Inundating means covering the whole top of the machine either by direct or indirect water spray. Internal injection means directing the extinguishing agent to inside compartments of the machine.

75.1107-8(d) Combination injection and inundation systems. This section presents requirements for an extinguishing device for attended equipment combining the inundating and internal injection methods; in all probability, it can be used most effectively on shuttle cars. A limited supply of water or chemical extinguishing agent is contained on the machine to minimize spread of fire while a hose connection is made to the water main. For an effective fire suppression device, the extinguishing liquid contained on the machine shall discharge independently of the electric power connection to the machine. In the event of a fire on the machine it must be assumed that the power control on the machine will be immediately turned off or that the overload protection, in case of a short circuit, would deenergize the machine.

The 50-foot section minimum length of hose on the machine may be on a reel or coiled for convenient removal and transport toward the fire hydrant. The connection to the hydrant or hose which is attached thereto should be made in not more than 2 minutes. Sufficient hose should be maintained at the hydrant so the connection can be made regardless of the location of the machine in the working place. Should any doubt exist regarding the capability of the miners to make this connection in 2 minutes because of apparent poor planning, improper location, or insufficient hose, trial runs should be made.

The requirements state that the quantity of liquid stored on the machine can be reduced appreciably if chemicals are added to the water. The chemical - potassium bicarbonate - is indicated. Tests by the Bureau in the Experimental Coal Mine show that a potassium bicarbonate solution is 3 to 4 times more effective than plain water. The potassium bicarbonate solution is corrosive to unalloyed steel. Other chemicals that are noncorrosive or contain inhibitors are equally effective for fire control.

75.1107-8(e) Quantity of water required for cable reel compartments. Past experience has shown that approximately 40 percent of the fires on machines having a cable reel initiate in the cable reel compartment. Some of these fires may have been caused by poor splices and the excessive

heat liberated in the coiled cable. Whether fire control with water is achieved by inundating or internal injection, the indicated amount of water shall be directed into the cable reel compartment.

75.1107-8(f) Inhibitors in self-contained water supplies. This requirement is not mandatory but the industry should be encouraged to use additives in the water, particularly where water is maintained in self-contained tank supplies.

75.1107-8(g) Systems supplying fire suppression devices. The purpose of the rising stem, or other visual indicator-type shut-off valve, is to provide a visual means for assuring that the control valve is in the open position while the machine is operating.

75.1107-8(h) Water supplies for fire suppression devices installed on underground equipment. The purpose of this section is to insure that the fire suppression device will be operative while power is connected to the machine. To be effective, the suppression device must be independent of the main power supply to the machine; otherwise, the fire suppression system would become inoperative should a short circuit or other electrical fault occur which automatically or by action of the miner would deenergize the machine. The use of an automatic system incorporating sensors was considered, but deemed not necessary since the machines are attended. Automatic sensors can be used but they are not mandatory.

In application of this regulation, questions may arise relative to the necessity of maintaining a hose connection during tramming of a machine. The hose connection shall be maintained during tramming, but when the machine is stopped in the open crosscuts or passageways outby the dead-end face areas, reasonable time may be allowed to change hoses at the machine.

Should an operator elect to use the combined internal injection and inundating system described in part (d) in this section, the requirement that water supplies (hose connection) be continuously connected does not apply.

75.1107-9(a)(1), (3), and (6) Dry powder devices; capacity; minimum requirements. With dry powder systems it is important that the nozzles and piping be sealed against dirt and moisture. Although the dry powder is treated to minimize water absorption, water will dissolve the powder and could cause caking. Several methods for sealing the nozzles have been proposed such as blow-off caps or silicon grease. Effective methods will have to be proven by experience.

The purpose of the wire braid is to provide strength and protection to the hose to minimize crushing. Single wire braid is acceptable.

The rate of application of dry powder (as for all extinguishing agents) is a primary factor affecting efficient action of the agent. The maximum times indicated, 40 and 60 seconds, were considered to be optimum, using the best engineering judgment available at the time of preparation of the regulations. These maximum times are not critical.

75.1107-9(b) and (c) Capacity of dry powder devices. In this and subsequent regulations the word "nominal" is used in indicating the weight of dry powder. Many dry powder systems were originally designed for sodium bicarbonate before all-purpose powder (ammonium phosphate) was shown to be more effective. Sodium bicarbonate is denser than ammonium phosphate; hence, for example, a 30-pound system designed for the sodium bicarbonate may hold slightly less all-purpose dry powder by weight.

The date, "March 30, 1971" is incorrect; it should be "March 30, 1972".

75.1107-12 Inerting of mine atmosphere prohibited. The term "total flooding" does not mean total flooding with water, but control of the potentially hazardous area by inerting the whole atmosphere, generally with carbon dioxide. This method of fire control is not recommended in mines because of the limited means of escape for personnel who might be trapped in the enclosed space.

75.1107-14 Fire suppression devices; hazards; training of miners. This regulation should not be treated lightly as the operation of the fire suppression devices, particularly in confined spaces, can startle the miners, decrease visibility and increase the difficulties of travel. Miners adjacent to a machine protected by water spray, deluge or sprinklers will suffer discomfort. The operation of dry powder devices will create a dense cloud of white powder. The powder is non-toxic, but will cause difficulty in breathing and will limit vision. Miners working near moving and rotating machines should be aware of these factors.

75.1108 Flame-Resistant conveyor belts. Conveyor belts acquired before March 30, 1971, which do not meet the requirements of Section 75.1108 can be used until replacement of the conveyor belt is necessary.

Conveyor belts which have been approved as flame-resistant by the Bureau of Mines are marked every 30 feet, on alternate edges of the coal carrying side of the belt, with the following: Flame Resistant U.S.B.M. No._____.

75.1200 Fireproof repository. The original maps and tracings of a mine, those from which true copies are made, shall be kept in a fireproof repository to insure the protection of such maps and tracings from damage or destruction by fire, water, or other such hazards.

Such repository shall be located on the surface of the mine in an area chosen by the operator. Such repository may be located on the surface at a central mine office or in the office of an individual, partnership, corporation, or other such firm contracting the engineering work for a mine, if the following conditions are met: A true copy of the mine map shall be maintained on the surface of the mine in a fireproof building or a fireproof container which meets the approval of the Coal Mine Health and Safety District Manager of the district in which the mine is located, and such copy is certified by a registered engineer or registered surveyor of the State in which the mine is located.

75.1202 Temporary notations. The mine maps shall be kept up to date by temporary notations; however, such notations may be made on a true copy of the mine map. The temporary notations shall be posted at least once during each coal-producing day. Such a true copy may be considered compliance with the provision requiring that the mine map be kept up to date by temporary notations.

75.1203 Submitting mine maps. The operator shall furnish the Coal Mine Health and Safety District Manager of the district in which the mine is located, upon request, one or more copies of the mine map and any revision and supplement thereof.

The operator shall furnish, to the Coal Mine Health and Safety District Manager of the district in which the mine is located, two copies of the mine map and any revision and supplement thereof, on or before the first day of March of each year unless otherwise specified by the District Manager. Such copies shall show all the required information as posted on the mine map on or after the first day of January of each year.

75.1300 Unconfined shots. The use of explosives in applying rock dust to mine surfaces is to be interpreted as firing unconfined shots and shall be considered an imminent danger.

75.1302 Blasting in underground anthracite mines. Workmen shall not go inside a battery to place an explosive charge to start the flow of material.

75.1303 Permissible explosives and electric blasting. The use of non-permissible explosives or the use of permissible explosives in a nonpermissible manner, except as permitted in Section 75.1302, shall be considered an imminent danger.

Detonators of different manufacturers shall not be used in a multiple-shot circuit. Electric detonators of different manufacturers have different firing characteristics and may result in misfires if used in the same series. Permissible cap lamp batteries approved as shot firing units are approved to fire single shots only.

Approvals have been issued to manufacturers for multiple shot firing units designed especially for short-delay electric detonators.

75.1303 Plastic tamping pole. A plastic pole acceptable to the U. S. Bureau of Mines for tamping explosives in shot holes shall have suitable physical properties of hardness, strength and durability; be nonreactive to mine water or to the chemicals in the explosives (particularly to nitroglycerin); have a burning rate no greater than wood; and have a specific electrical resistance more than 10^9 ohms. If plastic tubing is used, the working end shall be sealed with an equivalent plastic, not metal.

75.1303-1 Use of nonpermissible shot-firing units. If it is found that a nonpermissible shot firing unit is being used to fire more than 20 shots simultaneously underground it shall be determined whether a permit has been issued by the District Manager for use of such shot-firing unit, and if so, whether its use is in compliance with the required safety precautions.

75.1304 Persons carrying explosives or detonators underground. Detonators and explosives shall not be carried in the same container.

75.1305 Transporting explosives or detonators. Transporting explosives in their original containers in an uncovered car on a trolley-wire haulageway shall be considered an imminent danger.

Transporting explosives and/or detonators on electrically operated equipment shall be considered an imminent danger, except that explosives or detonators may be transported in special closed containers in shuttle cars or in equipment designed especially for transporting explosives or detonators.

When explosives or detonators are transported underground in cars moved by means of a locomotive or rope, or in shuttle cars, they shall be in substantially covered cars or in special substantially covered containers used specifically for transporting explosives and detonators.

The bodies and covers of special containers and cars, in which explosives are transported shall be constructed or lined with nonconductive material. Metal shall not be exposed inside the cars.

If explosives and detonators are hauled in the same explosives car or in the same special container, they shall be separated by a 4-inch substantially fastened hardwood partition or the equivalent.

Men shall not be permitted on any cage, skip, bucket or car in which explosives are transported, and tools and other extraneous material shall not be transported in a car with explosives.

Explosives or detonators shall not be transported on flight or shaker conveyors. Other materials shall not be hauled in a shuttle car in which blasting supplies are being transported.

No person except the operator shall ride a shuttle car in which explosives and detonators are being transported.

Trailing and power cables shall be kept in the clear of shuttle cars in which explosives and detonators are being tranported and energized equipment shall be kept away from the loading and unloading locations.

Explosives or detonators transported in special cars or in special containers placed in cars shall be in a special trip not connected to any other trip.

The explosives car shall be conspicuously marked with warning signs.

The special trip for hauling explosives shall precede or follow any other trip by at least a 5 minute interval.

Explosives may be transported on belts in the original unopened shipping containers. However, where electric detonators are transported on belt conveyors, they shall be transported in special substantial containers.

Where belts are used for transporting explosives and detonators the following provisions shall apply:

(a) A minimum clearance of 18 inches shall be maintained between the belt and the roof or other overhead obstructions such as crossbars, cap pieces, cables, wiring, and other objects; however, where the height of the coalbed permits, the clearance shall not be less than 24 inches.

(b) Conveyor belts shall be kept free of loose coal or rock and the distance between containers of explosives and detonators shall not be less than 5 feet. There shall be an attendant at explosives loading and unloading stations along belts, and stop controls shall be provided at these locations.

(c) Suitable loading and unloading stations shall be provided and such stations shall be adequately illuminated.

The belt speed shall not exceed 300 feet a minute while explosives are being handled or transported.

75.1306 Storage of explosives and detonators underground for one or more working sections. When stored for section use, explosives and detonators shall be kept in separate magazines or boxes not less than 5 feet apart; except that they may be kept in the same magazine or box provided they are separated by at least a 4-inch substantially fastened hardwood partition or the equivalent.

Not more than a 48-hour supply of explosives and detonators shall be kept in an underground storage magazine.

The magazines shall be kept clean and free from extraneous materials, and packing paper shall not be permitted to accumulate in or around the magazine.

An agreement between the Department of the Treasury and the Department of the Interior provides that the Bureau of Mines (Metal and Nonmetal Health and Safety Division and Coal Mine Health and Safety Division) will make inspections of storage facilities involving applications for licenses and permits under Chapter 40, Title 18 U.S.C. when the applicant is one who comes under the jurisdiction of the Bureau of Mines. Bureau of Mines Inspectors will also conduct compliance investigations in regard to storage and recordkeeping requirements of licensees and permittees under their jurisdiction as well as compliance investigations in regards to storage requirements of all operators under their jurisdiction who use and store explosive materials.

Magazines provided underground shall normally be required to be constructed in conformity with Section 181.188 of Title 26 Code of Federal Regulations which concerns construction of type 2 storage facilities. These regulations were prescribed to implement the provisions of Title XI, Regulation of Explosives (Public Law 91-452) Organized Crime Control Act of 1970 which became effective February 12, 1971.

Bureau of Mines inspectors will conduct compliance investigations during regular inspections. Storage facilities will be inspected at all mines where explosive materials are stored. In addition, they will inspect

records of all licensees and permittees under their jurisdiction. A violation or noncompliance will be documented on Form 4729. This form will be prepared in quadruplicate, setting forth the conditions which do not meet the prescribed standards. The applicant, owner, or his agent as the case may be, signs the original and the copies of Form 4729, after which he will be given a copy, and a "Recall" date set. If the facility is one which after minor modification, either by location in the mine or construction thereof could be shown to be substantially equivalent to the minimum standards, management may, on its own initiative or upon the advice of the inspector, submit a request for variance. The request for variance should be submitted to the inspector who will review it and forward it to his District Manager with a copy of the Form 4729 and then on to the appropriate regional office for approval or disapproval. He will retain the original and a copy of Form 4729 for a "Recall" investigation after he receives the copy of the letter of approval or disapproval. After the "Recall" investigation the inspector will complete Section B of Form 4729 and then forward the original and copy to his District Manager who will reatin a copy and transmit the original to the appropriate regional office. If further action is required by ATF, such action may be taken with or without the assistance of the Bureau of Mines inspector. The appropriate Bureau of Mines District Manager should be kept informed of action taken by ATF in such cases. In his request for variance the operator should list all conditions relative to protection afforded underground storage facilities such as distance from the portals, types of openings, number of shifts worked and whether or not the mine is patrolled or attended on idle days such as week-ends and holidays.

Usually underground storage facilities will not be in the category requiring a license or permit, but they will be inspected as is required of any user.

A "Recall" investigation is similar to the follow-up inspection made by a Bureau of Mines inspector following the expiration of a period of time granted when a Notice of Violation is first issued.

The instructions as given here apply only to underground storage facilities and only where a license or permit is not needed. Complete instructions relative to the agreement between the Department of the Treasury and the Department of the Interior will be included as a part of the "Coal Mine Safety Inspection Manual for Surface Coal Mines and Surface Work Areas of Underground Coal Mines."

Example 1

Notice of noncompliance issued even though violation was complied with while investigation was being made. This is a history of the total operation and could possibly be important in the future if same noncompliance is found. No recall needed if violation is complied with and future voluntary compliance is indicated.

Example 2

Notice of noncompliance issued since violations could not be complied with while investigation is being made. Recall date set and indicated on form after operator has indicated when he will be in compliance. He should be advised that the noncompliance will delay the processing of his application for permit/license if such is involved.

Example 3

Recall has been made and all violations apparent on October 29, 1971, have been corrected and future voluntary compliance is indicated.

Example 4

Recall investigation has been made and operator has made no effort to correct violations detected on October 29, 1971. A judgment must be made at this time to determine if the noncompliance is willful or non-willful. If some circumstances have prevented the compliance and the explanation is satisfactory an additional recall can be made without further action. If the continuing violations are considered willful the investigation should be referred to ATF for further investigation.

If the inspector cannot get the Form signed by the owner or his agent, as the case might be, then the inspector will write in the name of the individual involved and so state that this is not a signature. A copy of the completed form should still be given to the owner or his agent.

Where the inspector is required to sign any of the ATF forms it has been requested that they also print their names in the same block as it has been difficult in the past to determine the name of the person who signed the Form.

Example 1

Form 4729 (Feb. 1971) Department of the Treasury Internal Revenue Service	Report of Noncompliance	LICENSE OR PERMIT NUMBER I.D. No. of the mine if no licens or permit needed

NAME OF LICENSEE OR PERMITTEE	ADDRESS OF LICENSEE OR PERMITTEE	EXPIRATION DATE
Mine No. 1 A. and S. Coal Company	Crab Orchard Armstrong County, Pa.	(as needed)

Section A. Compliance Investigation

An examination of your license or permit premises, records, storage, and operations has disclosed the following noncompliance of law and regulations. Noncompliance of:

181.195 Housekeeping - Empty boxes in explosives storage magazine and other trash on the floor. Trash around the immediate outside of the magazine.

I acknowledge that I have been advised of the nature of the noncompliance of law and regulations and proper methods for compliance have been stated. I understand that continued failure to comply with law and regulations can result in further action.

NAME AND TITLE	DATE
Richard Roe, Owner	10-29-71

[X] Voluntarily complied, no recall needed. [ ] Recall investigation required.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE
John Doe	10-29-71

Section B. Recall Investigation

[ ] Voluntarily complied on recall investigation. [ ] Recommend warning letter be issued.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE

Section C. Recall Investigation After Warning Letter

[ ] Voluntarily complied on recall investigation.

[ ] Wilful noncompliance, recommend a Special Investigation be assigned.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE

FORM 4729 (2-71)

Example 2

Form 4729 (Feb. 1971) Department of the Treasury Internal Revenue Service	Report of Noncompliance	LICENSE OR PERMIT NUMBER I.D. No. of the mine if no license or permit needed
NAME OF LICENSEE OR PERMITTEE Mine No. 1 A. and S. Coal Company	ADDRESS OF LICENSEE OR PERMITTEE Crab Orchard Armstrong County, Pa.	EXPIRATION DATE (as needed)

Section A. Compliance Investigation

An examinatian af yaur license ar permit premises, recards, storage, and operations has disclosed the following nancompliance af law and regulatians. Noncampliance af:

181.188(a) Construction of type 2 storage facilities. The four magazines located underground were constructed only of 1-inch thick hardwood and they were not provided with locks.

I acknawledge that I have been advised of the nature af the nancampliance of law and regulatians and proper methods for compliance have been stated. I understand that cantinued failure to camply with law and regulatians can result in further actian.

NAME AND TITLE	DATE
Richard Roe, Owner	10-29-71

☐ Valuntarily camplied, na recall needed. ☒ Recall investigation required. November 30, 1971

SIGNATURE OF SPECIAL INVESTIGATOR	DATE
John Doe	10-29-71

Section B. Recall Investigation

☐ Valuntarily camplied an recall investigatian. ☐ Recammend warning letter be issued.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE

Section C. Recall Investigation After Warning Letter

☐ Valuntarily camplied an recall investigatian.

☐ Wilful nancampliance, recammend a Special Investigatian be assigned.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE

FORM 4729 (2-71)

Example 3

Form 4729
(Feb. 1971)
Department of the Treasury
Internal Revenue Service

Report of Noncompliance

NUMBER I.D. No. of the mine if no license or permit needed

NAME OF LICENSEE OR PERMITTEE	ADDRESS OF LICENSEE OR PERMITTEE	EXPIRATION DATE
Mine No. 1 A. and S. Coal Company	Crab Orchard Armstrong County, Pa.	(as needed)

Section A. Compliance Investigation

An examination of your license or permit premises, records, storage, and operations has disclosed the following noncompliance of law and regulations. Noncompliance of:

181.188(a) Construction of type 2 storage facilities. The four magazines located underground were constructed only of 1-inch thick hardwood and they were not provided with locks.

I acknowledge that I have been advised of the nature of the noncompliance of law and regulations and proper methods for compliance have been stated. I understand that continued failure to comply with law and regulations can result in further action.

NAME AND TITLE	DATE
Richard Roe, Owner	10-29-71

☐ Voluntarily complied, no recall needed. ☒ Recall investigation required. November 30, 1971

SIGNATURE OF SPECIAL INVESTIGATOR	DATE
John Doe	10-29-71

Section B. Recall Investigation

☒ Voluntarily complied on recall investigation. ☐ Recommend warning letter be issued.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE
John Doe	Nov. 30, 1971

Section C. Recall Investigation After Warning Letter

☐ Voluntarily complied on recall investigation.

☐ Wilful noncompliance, recommend a Special Investigation be assigned.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE

FORM 4729 (2-71)

(Feb. 1971)
Department of the Treasury
Internal Revenue Service

Example 4

Report of Noncompliance

NUMBER I.D. No. of the mine if no license or permit needed

NAME OF LICENSEE OR PERMITTEE	ADDRESS OF LICENSEE OR PERMITTEE	EXPIRATION DATE
Mine No. 1 A. and S. Coal Company	Crab Orchard Armstrong County, Pa.	(as needed)

Section A. Compliance Investigation

An examination of your license or permit premises, records, storage, and operations has disclosed the following noncompliance of law and regulations. Noncompliance of:

181.188(a) Construction of type 2 storage facilities. The four magazines located underground were constructed only of 1-inch thick hardwood and they were not provided with locks.

I acknowledge that I have been advised of the nature of the noncompliance of law and regulations and proper methods for compliance have been stated. I understand that continued failure to comply with law and regulations can result in further action.

NAME AND TITLE	DATE
Richard Roe, Owner	10-29-71

☐ Voluntarily complied, no recall needed. ☒ Recall investigation required. November 30, 1971

SIGNATURE OF SPECIAL INVESTIGATOR	DATE
John Doe	10-29-71

Section B. Recall Investigation

181.188(a) Construction of type 2 storage facilities. Has made no effort to provide locks or to construct magazines in compliance with the prescribed standards.

Willful noncompliance, recommend a special investigator be assigned.

☐ Voluntarily complied on recall investigation. ☐ Recommend warning letter be issued.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE
John Doe	Nov. 30, 1971

Section C. Recall Investigation After Warning Letter

☐ Voluntarily complied on recall investigation.

☐ Wilful noncompliance, recommend a Special Investigation be assigned.

SIGNATURE OF SPECIAL INVESTIGATOR	DATE

FORM 4729 (2-71)

75.1307 Storage of explosives and detonators in underground working places. Niches in which explosives and detonator containers are stored shall be large enough to provide complete protection for the stored explosives and detonators.

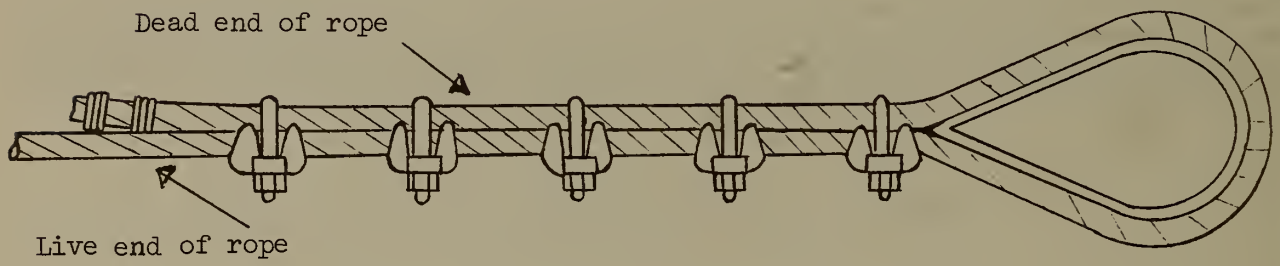
Explosives and detonators shall be kept in their containers until immediately before use at the working face.

75.1400-3 Daily examination of hoisting equipment. In general, the time for removal of a rope is indicated by a marked reduction in rope diameter, evidence of excessive abrasion on the outside wires, broken outside wires, or indications of severe corrosion. These factors can all be determined by visual inspection of the outside of the rope. The effect of the broken wires can be estimated by taking into account the number of broken wires and their distribution among the various strands. The number of broken wires which develop in a wire rope is the usual reason for removal. This can be considered the "safety value" that should be evident by visual inspection. The rope lay containing the greatest number of broken wires is usually the weakest section of the rope and is comparable to the "weak link" in a chain, except that the condition is visible. (A rope lay is that length of rope in which one strand makes one complete revolution about the core.)

When sockets are used as end attachments for wire ropes they shall be installed properly and only spelter (zinc) shall be used to fill the socket.

When the thimble and clip (clamp) method of attachment is used the proper number of clips (clamps) shall be used in conjunction with the thimble and they shall be spread properly. The saddle of the clip should rest upon the long or main rope and the U-bolt upon the short end.

Standard Shaft Hoist Thimble Clip Attachment



Attachment of Clips

Diameter of Rope, Inches	Number of Clips	Center-toCenter Spacing of Clips, Inches*	Length of Rope Turned Back Exclusive of Eye, Inches +	Length of Wrench, Inches
1/2	3	3	9	12
5/8	3	3-3/4	12	12
3/4	4	4-1/2	18	18
7/8	4	5-1/4	21	18
1	4	6	24	24
1-1/8	5	6-3/4	34	24
1-1/4	5	7-1/2	38	24
1-3/8	6	8-1/4	50	24
1-1/2	6	9	54	24
1-5/8	6	9-3/4	60	30
1-3/4	7	10-1/2	74	30
1-7/8	8	11-1/4	90	30
2	8	12	96	30
2-1/8	8	13	104	30
2-1/4	8	14	112	30

* Approximately 6 times the rope diameter
\+ Measure from nearest seizing

Because wire rope is a fine mechanism, its lubrication during service is of paramount importance if satisfactory life is to be obtained. Wire rope has many moving parts that are all closely and carefully related to one another and, as it operates over sheaves and drum, it is subject to bearing pressure between component wires under loads that are higher than for any machine bearing. The lubricant used by the wire rope manufacturer in fabrication is selected to meet the service requirements to which the rope will be subjected. It is important that the lubricant selected by the mine operator shall be miscible with the original lubricant. Safety of wire rope in service depends upon proper and adequate lubrication.

75.1401 Rated capacities of hoisting equipment. For the purpose of this section, the factor of safety of a mine shaft hoisting rope is the value obtained by dividing the nominal breaking strength of the rope by the calculated total static (deadweight) load. The calculated total static load shall be taken as the weight of the loaded skip or cage added to the weight of the rope extending from the head sheave down to the skip or cage attachment when in its lowest position in the shaft.

Safety Factors for Hoisting Ropes for Shafts When Handling Men
Based on Total Static (Deadweight) Load

Length of Rope in Shaft, Feet	Minimum Factor of Safety for New Rope	Minimum Factor of Safety When Rope Must be Discarded
500 or less	8	6.4
500 to 1000	7	5.8
1000 to 2000	6	5.0
2000 to 3000	5	4.3
3000 and over	4	3.6

The rated capacity of the hoist and the maximum number of persons permitted to be hoisted or lowered at any one time shall be posted conspicuously on each cage, skip, car, or other device, or at each landing.

75.1402 Communication between shaft stations and hoist room. A signal code shall be adopted and used, and it should be posted in view of the hoisting engineer and at all places where signals are given.

Signals received by the engineer shall be repeated by the engineer when men are to be hoisted or lowered.

75.1403 Other safeguards. These safeguards, in addition to those included as criteria in the Federal Register, may be considered of sufficient importance to be required in accordance with 75.1403.

1. At the bottom of each hoisting shaft and at intermediate landings, a "runaround" shall be provided for safe passage from one side of the shaft to the other. This passageway should be not less than 5 feet in height and 3 feet in width.

2. Ice shall not be permitted to accumulate excessively in any shaft where men are hoisted or lowered.

3. No person shall ride on a cage with equipment, supplies, or other materials. This does not prohibit the carrying of small handtools, surveying instruments, or technical devices.

4. Rails shall be secured at all joints by means of plates or welds.

5. Ample clearance shall be provided at conveyor-loading heads and at conveyor-control panels.

6. Guards shall be provided at conveyor-drives, conveyor-heads, and conveyor-tail pulleys, and shall extend a distance sufficient to prevent a person from reaching behind the guard and becoming caught between the belt and pulley.

7. Abrupt changes in vertical clearance that present a hazard to persons riding on mobile equipment shall be eliminated where possible. Otherwise, signs, preferably luminous, shall be posted to warn of the change in clearance.

8. Standing cars on any track, unless held effectively by brakes, shall be properly blocked or spragged. Cars shall be secured effectively at working faces.

9. Material being transported shall be so loaded and protected that there is no danger to the motorman or brakeman from sliding of equipment and material.

10. Except in emergencies, timbers and other materials not necessary for, or not incident to, the operation of locomotives, cutting machines, loading machines, and coal-drilling machines shall not be transported on such equipment.

11. Where block signals are used, not more than one locomotive, except pushers, shall operate in any signal block at the same time unless by special authority. All mine traffic shall be under the direction of a competent person or persons designated by the operator, and no traffic shall be in transit without prior clearance, verbally or by use of block signals.

12. Man-trip passengers shall not ride under unguarded trolley wire unless suitable covered mancars are used.

13. An official or other responsible person designated by him shall be in attendance while men are boarding or leaving belts.

14. Where seating facilities are provided, operators of equipment shall be seated while such equipment is being operated.

15. Track locomotives shall be maintained in safe operating condition and equipped with proper rerailing devices, safe seating facilities for the operator, audible warning devices, sealed-beam headlights or the equivalent on each end, a suitable lifting jack and bar, and properly installed and maintained sanding devices.

16. Rubber-tired, battery-powered, mine tractors shall be equipped with a suitable lifting jack and bar adequately secured or carried in a compartment.

17. Backpoling shall be prohibited except at places where the trolley pole cannot be reversed or when going up extremely steep grades and then only at very slow speeds.

18. Upon the approach of moving traffic, persons not engaged in haulage operations shall take refuge in shelter holes or other places of safety.

19. No person shall get on or off moving locomotives or cars being moved by locomotives; however, the brakeman may get on or off the rear end of a slowly moving trip.

20. All cars and locomotives not equipped with automatic couplers shall come to a complete stop before they are coupled or uncoupled unless a coupling hook is used.

75.1403-5 Persons being transported on belt conveyors. The requirements for the transportation of persons on belt conveyors as outlined in 75.1403-5 shall apply when any person is transported on belt conveyors at times other than during the regularly scheduled mantrip operations.

75.1403-5(a) Stop and start controls along belt conveyors. Bare pinch wires are acceptable for stopping and starting belt conveyors used to transport persons, provided that the voltage on such circuits is not more than 12 volts. A pull cord arrangement that will enable any person riding the belt conveyor to stop the belt at any location along the belt shall be acceptable as compliance. Start switches may be located at intervals of not more than 500 feet along such belt conveyors.

75.1403-6(a)(2) Self-propelled personnel carriers; headlights. A sealed-beam headlight, or the equivalent, on the front end of personnel carriers designed to operate in a forward direction only except for maneuvering, will suffice.

75.1403-6(b)(3) Self-propelled personnel carriers; sanding devices. Sanding equipment shall be sufficient to apply sand to all wheels in both directions of travel.

75.1403-7(n) Drop-bottom cars used for mantrips. Failure to provide special locking devices on drop-bottom cars used for transporting men on man trips shall be considered to constitute a danger that a mantrip accident will occur immediately or before such danger can be eliminated, within the meaning of Section 104(a).

75.1403-8(d) Track haulage roads; clearance. Only 24 inches of clearance space need be kept free of loose rock, supplies, and other loose materials.

75.1403-10(f) Warning devices. This section shall be used to require warning devices on all mobile face equipment including auger-type continuous mining machines.

75.1403-10(i) Maintenance of shuttle car roadways. Sprinkling a shuttle car haulage road to allay dust shall not be construed as making the roadway wet and increasing the difficulty of controlling the shuttle car.

75.1403-10(l) Haulage; general, rubber-tired equipment. Self-propelled rubber tired haulage equipment shall be equipped with sealed-beam lights and audible warning devices.

75.1404 Automatic brakes on locomotives. This provision is not intended to require automatic brakes or speed reduction gears on locomotives used by mechanics and others solely to haul repair parts or supplies, or their transportation, provided that no more than one haulage car is used with such locomotive. All other locomotives shall be equipped with hydraulic brakes, pneumatic brakes or dynamic braking, in addition to manual brakes.

75.1600 Approval of communication systems. The communication systems that are now in use at each mine will be acceptable at the present time; however, there must be at each mine an operative means of communications between each working section and the surface when the working section is more than 100 feet from the portal.

75.1700 Active or inactive gas and oil wells. This provision shall apply to active or inactive gas or oil wells.

Approval for barriers less than 300 feet. Approval for barriers of less than 300 feet in diameter and consistent with State laws may be granted only by the District Manager.

75.1701 Approaching abandoned workings. This provision requires that boreholes shall be drilled at least 20 feet in advance of the face and shall be continually maintained to a distance of at least 10 feet in advance of the advancing face, and also not more than 8 feet apart in the rib or ribs to a distance of at least 20 feet at an angle of 45 degrees when approaching:

1. Within 50 feet of abandoned workings of the same mine that are shown on the mine map by surveys made and certified by a competent engineer or surveyor and which cannot be inspected and may contain dangerous accumulations of water or gas.

2. Within 200 feet of abandoned workings of the same mine which were not accurately located by surveys made and certified by a competent engineer or surveyor and which cannot be inspected and may contain dangerous accumulations of water or gas.

3. Within 200 feet of any workings of an adjacent mine that cannot be inspected and may contain dangerous accumulations of water or gas, even if shown by surveys made and certified by a competent engineer or surveyor.

This section shall not be construed to require boreholes in overlying or underlying strata to test abandoned mines above or below an active mine. When maps for the mine being inspected or for known adjacent abandoned mines are not available and the inspector has reason to believe that a working place is within 200 feet of abandoned workings of the same mine which cannot be inspected, or within 200 feet of any workings of an adjacent mine, and boreholes are not kept in advance of the face or in the ribs as required by this section, the inspector shall issue an Order requiring the operator to withdraw the workmen in accordance with Section 104(a). When maps are not available, he must exercise good judgment based on whatever facts he is able to obtain.

75.1702 Search program for smokers' articles. The operator's search program for smokers' articles shall be sytematic and conducted at least weekly at irregular intervals and as often as necessary to insure that the program is being adhered to and not being violated.

Records of searches for smokers' articles. Records of such searches shall be made and kept in a book provided for that purpose in a safe place on the surface, and the records shall be available for inspection.

Limitations of the inspector and his actions. When an inspector observes a miner smoking underground he shall obtain the name of the miner involved, the names of any witnesses, and issue a Notice of Violation to the miner. He shall also issue a Notice of Violation or an Order of Withdrawal to the operator.

Generally, Orders of Withdrawal are not to be issued, except in appropriate circumstances, where an inspector actually observes a person smoking underground and where the operator's search program is not vigorously enforced. In other circumstances, where cigarette butts or cigarettes, lighters, or matches are observed underground, a Notice under Section 104(b) or 104(c) would be more appropriate.

"No Smoking" signs at surface structures. The operator shall post "No Smoking" signs at or near surface structures when smoking is prohibited.

75.1703 Maintenance of electric cap lamps. Electric cap lamps used for portable illumination underground shall be maintained in permissible condition. Lamps that have been altered such as by exposing a contact point in the headpiece for use as a shot-firing unit shall be considered to be nonpermissible.

Examination of cap lamps. The inspector shall examine a representative number of cap lamps at each mine during regular inspections to assure that the lamps are being maintained in permissible condition.

75.1704 Approval of escapeways and escape facilities. Escape facilities and escapeways that do not meet the criteria outlined in this requirement may be approved only by the District Manager.

75.1704-1(b) Escape facilities - attendant. The "attendant" referred to in this requirement means a person on the surface located in a position that such person, or another person as the case may be, could travel to the escape facility and be able to operate it within a period of time not exceeding 20 minutes after being notified.

75.1705 Number of miners allowed in a mine until a connection is made. The total number of 20 miners allowed in any mine at any one time shall be interpreted to mean that no more than 20 miners (including supervisory personnel) may be permitted to work in any individual shaft, slope, or drift opening until a connection is made. In determining the total number of persons allowed in the mine before a connection is made, the number shall not include State or Federal inspectors, representatives of the miners, or equipment manufacturing representatives.

Connections to be made as soon as possible. Only the work necessary to make connections between the mine openings shall be permitted, and any development or other extraction of coal shall be prohibited until the connections are completed.

75.1706 Number of miners allowed in a mine owing to final mining of pillars. The same instructions outlined in Section 75.1705 shall apply to this provision, except that the limitation of 500 feet between the mine opening and working face shall be measured from the bottom of a shaft or slope or from the portal of drift mines to the working face.

75.1707 Type of stoppings required between intake air escapeways and belt and trolley haulage entries. Separation of the escapeways from belt and trolley haulage entries shall be made with substantially built, permanent-type stoppings, such as concrete, concrete blocks, brick, tile, or metal, and they shall be reasonably airtight.

Granting an exception to the distance between escapeways and each working section. When an operator desires permission for an exception to the distance between escapeways and each working section, either greater or less than specified in this provision, he may apply to the District Manager for approval of such exception.

75.1708 Surface structures - existing structures. Where existing structures erected prior to the operative date of the Act are fireproofed, the erection of fire doors is not necessary.

Fire doors - construction and location. Fire doors shall be substantially constructed and located in the mine as near as practicable to the surface to prevent the products of combustion from entering and endangering persons underground.

75.1709 Examinations for methane in or on surface coal-handling and coal-storage facilities. At least once during each working shift, or more often if necessary, a qualified person designated by the operator shall make examinations for methane where the possibility of accumulations exist in surface coal-handling and coal-storage facilities. A record of such examinations shall be kept. The examinations for methane shall be made with a permissible methane detector. Where accumulations of 1.0 per centum or more of methane is detected in such surface facilities, means shall be provided to prevent methane from accumulating in such quantity. Tests for methane in surface structures shall also be made prior to any repair work in which welding or an open flame is used, or a spark may be produced.

Prevention of excessive accumulations of coal dust in surface coal-handling facilities. An effective and systematic program of preventing coal dust from accumulating in coal-handling facilities shall be initiated by the operator. The presence of excessive concentrations of coal dust, whether in or on such facilities, would constitute a violation of this provision. Also,

where excessive air-borne dust could present an explosion hazard, water sprays or other effective means shall be used to allay such dust.

75.1711 Openings of active mines. Isolated openings, such as intake or return airways in remote areas shall be fenced, and conspicuous signs prohibiting entrance of unauthorized persons shall be posted at all mine openings.

75.1712-7 Waivers for locations of underground sanitary facilities. This requirement does not permit granting a waiver for not providing sanitary toilet facilities underground, but only for changing the locations of such facilities when they cannot be maintained within 500 feet of working places.

75.1713-1(a) and (b) Arrangements for emergency medical assistance and transporation for injured persons. The intent of these requirements is to establish rapid transit facilities in order to provide prompt medical service for persons employed at a mine. These requirements are not to be interpreted to mean that a physician or an ambulance must be present at the mine at all times.

75.1720(a) Protective clothing. The phrase "when other hazards to the eyes exist from flying particles," is interpreted to mean that face shields or goggles shall be worn by miners when performing work such as breaking material with a hammer, digging with a pick, tightening a roof support with an axe or hammer, sounding roof, riding in or on haulage equipment (except closed-type equipment, such as covered man cars), and any other work the inspector considers hazardous to the miners' eyes.

APPROVED BOOKS AND RECORDS

75.1808 Location of mine record books and records. All approved books and records maintained pursuant to the Provisions of 75.1801 through 75.1807 may be kept on the surface in a fireproof building or a fireproof container approved by the Coal Mine Health and Safety District Manager or Subdistrict Manager.

GUIDELINES FOR THE ISSUANCE OF NOTICES AND ORDERS UNDER SECTION 104 OF THE ACT

The source of the mine inspector's authority and responsibility is Section 104 of the Act. This Section establishes an integrated and carefully balanced system of enforcement which the inspector must follow. It involves some very difficult judgments. The inspector must always have the health and safety of the miner foremost in mind. He must also be aware that the purpose of the Act is to achieve maximum compliance with the provisions of the Act and the implementing regulations.

Section 104 provides the inspector with authority to issue Notices of Violations, Withdrawal Orders, and Notices of Abatement where he finds certain conditions exist. He must exercise this authority with care and judgment.

Section 104(a) deals with imminent danger. "Imminent Danger" is defined in the Act as "the existence of any condition or practice in a coal mine which could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated."

The two important elements of an imminent danger order are (1) the existence of a condition or practice which could reasonably be expected to cause death or serious physical harm and (2) the imminence of the danger as one that may cause such death or physical harm before it can be abated. An imminent danger Withdrawal Order could involve a violation of a mandatory standard, but it is possible to have an imminent danger arise from natural or other causes without any violation of a standard being involved. The imminence of the danger is a judgment to be made in the light of all the circumstances.

If the condition or practice is not an imminent danger, the proper action by the inspector is to issue a 104(b) Notice and fix a time for abatement.

Section 104(b), apart from imminent danger situations where an immediate withdrawal is required, is the primary tool for obtaining compliance with the mandatory health and safety standards.

When the inspector is satisfied upon an inspection that a condition or practice exists which violates a mandatory standard his responsibility is to issue a 104(b) Notice and fix a reasonable time for the operator to abate the condition or practice. Wherever practical, the time fixed should be determined after a discussion with the mine operator, and the time fixed should be reasonable taking into account the circumstances. Upon the expiration of the time fixed for abatement, the inspector should

again review the circumstances and extend the time if the circumstances justify. If no extension of time is justified and the condition or practice continues unabated, the inspector should issue a Withdrawal Order under Section 104(b). Upon the abatement of the condition or practice the Withdrawal Order should be promptly terminated.

Section 104(c) deals with unwarrantable failures on the part of a mine operator to comply with mandatory health and safety standards. This section is not intended to be used where there is imminent danger or where compliance with standards can be effectuated by the issuance of Notices and Orders under Section 104(b). It is recognized that violations of mandatory standards can occur where the mine operator is making a diligent and good faith effort to comply with the Act. It would not normally be considered appropriate to invoke 104(c) against the mine operator who by his course of conduct and his good faith and diligence shows a continuing intent and effort to comply with the Act. Section 104(c) is intended for the mine operator who is indifferent, irresponsible, and careless as to health and safety, and who is a repeated violator irresponsibly allowing violations of mandatory standards to occur or to continue unabated after he knew or should have known the conditions existed.

Before an inspector issues a Notice or Order under Section 104(c), he must first determine that:

1. There is a violation of a mandatory health or safety standard,

2. That the violation or condition does not constitute an imminent danger,

3. That the violation will significantly and substantially contribute to the cause and effect of a mine health or safety hazard, and

4. That the violation occurred because of an unwarrantable failure on the part of the operator to comply.

A finding of unwarrantable failure requires the exercise of a careful judgment on the part of the mine inspector. The existence or occurrence of a violation of mandatory standard which could significantly and substantially contribute to a mine safety or health hazard does not of itself support a finding of unwarrantable failure to comply with the standard. There must be a separate and additional finding that the violation resulted from an "unwarrantable failure" to comply with the standard violated. This is a completely separate finding which requires a careful judgment that the operator knew, or should have known, that

if certain conditions or practices were allowed to continue they would result in a violation significantly and substantially affecting mine health and safety and he allowed the condition or practice to continue unabated because of indifference and lack of concern for health and safety or through indifference, heedlessness, irresponsibleness or carelessness he fails to abate the existence of a violation which he knows contributes substantially and significantly to a mine health or safety hazard.

The finding of a violation would be as a minimum the occasion for the issuance of a 104(b) Notice of Violation.

Whether such finding would be the occasion for the issuance of a 104(a) Order instead would of course depend on the additional existence of the elements of "imminent danger" as described earlier.

Whether such finding would be the occasion for the issuance of a 104(c) Notice or Order instead of a 104(a) or 104(b) Order or Notice would depend on there not being an imminent danger involved and on there existing the additional elements of "unwarrantable failure" as described earlier.

A violation of any provision of the Act or regulations can, depending on the circumstances, be reason for either a 104(a), 104(b), or 104(c) action. For example:

> A crosscut has been completed and preparation has not been made to promptly close the crosscut outby in line with the permanent stoppings to prevent short circuiting the air in the face areas. This would be reason for a 104(b) Notice. If more than one crosscut is open and the inspector is unable to measure the required air velocity in the last open crosscut this may be reason for a 104(c) Notice or Order. Should one volume percentum or more of methane be detected in the working place and the crosscuts had not been closed would be reason for a 104(a) Order.

It must be remembered the mere fact that the violation is one that has been observed repeatedly is not reason to assume that this is unwarrantable failure on the part of the operator. A determination must be made that the operator knew or should have known that the violation existed and that the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard.

RULES FOR THE ISSUANCE OF NOTICES AND ORDERS UNDER SECTION 104(c)--UNWARRANTABLE FAILURE

A. For the purpose of "wiping the slate clean" after the issuance

of a 104(c)(1) or 104(c)(2) Order and reinstating the initial procedures of issuance of 104(c)(1) Notices before issuance of an Order under 104(c), a complete inspection of the entire mine (a "regular" inspection) must be made which reveals no unwarrantable failure violation (a "clean" inspection).

B. 104(c) Notices and Orders may be issued during any inspection including spot inspections.

C. Once a 104(c)(1) Notice has been issued a time period of 90 days begins to run. Assuming that no Order has been issued under 104(c), then regardless of the number of "clean" inspections (whether "spot" or "regular") which have been made during the 90 day period following the issuance of the Notice, if an unwarrantable failure violation is observed during any inspection made within the 90 day period, a 104(c)(1) Order should be issued.

Once a 104(c)(1) Notice has been issued the entire period of 90 days must elapse or expire without the issuance of a 104(c) Order before the reinstatement of the initial procedures of issuance of a 104(c)(1) Notice. If the period of 90 days elapses or expires after the issuance of a 104(c)(1) Notice, without the issuance of a 104(c) Order, the "slate is wiped clean," and thereafter, if an unwarrantable violation is observed a 104(c)(1) Notice will be issued, and the procedures prescribed by 104(c) reinstated.

D. Once a 104(c)(1) or a 104(c)(2) Order has been issued an entire inspection of the mine (a "regular" inspection) must be made which reveals no unwarrantable failure violation. If such a "clean regular" inspection is made, as far as unwarrantable failure violations are concerned, all previous 104(c) Orders and Notice on which such Orders were based are wiped out and the initial procedures of 104(c)(1) are reinstated, and then the inspector will first issue a Notice under 104(c)(1) upon the observance of an unwarrantable failure violation during an inspection made after the "clean" inspection, even if the inspection is conducted within the 90 day period after the issuance of the original 104(c)(1) Notice.

E. 104(c)(1) Orders will be issued for unwarrantable failure violations observed during the same inspection in which, and after, the 104(c)(1) Notice was issued.

F. 104(c)(1) Orders will be issued upon observance of an unwarrantable failure violation during an inspection made within 90 days after the issuance of a 104(c)(1) Notice and there have been no previous 104(c) Orders issued since the issuance of the Notice.

G. All unwarrantable failure Orders issued during the same inspection at which the first 104(c)(1) Order was issued, will be 104(c)(1) Orders.

Therefore, 104(c)(2) Orders will not be issued during the same inspection in which a 104(c)(1) Order or Orders have been issued.

H. Once a 104(c)(1) Order has been issued, the 90 day period has no further effect or application. Either 104(c)(1) Orders will be issued (for unwarrantable failure violations observed during the same inspection in which the first 104(c)(1) Order was issued), or 104(c)(2) Orders (for unwarrantable failure violations observed during an inspection made subsequent to the inspection in which a 104(c)(1) Order or Orders was issued) will be issued and continued to be issued forever, until a complete inspection ("regular" inspection) of the mine has been made which reveals no unwarrantable failure violations. When a complete inspection ("regular" inspection) of the mine has been made, following the issuance of a 104(c)(1) or 104(c)(2) Order, which reveals no unwarrantable failure violation, the initiating procedures of 104(c) are reinstated and a 104(c)(1) Notice will be issued for the first unwarrantable violation observed at an inspection made subsequent to the "clean" inspection.

ILLUSTRATIONS OF APPLICATION OF THE RULES

Situation 1: - During an inspection you observe an unwarrantable failure violation. There have been no 104(c)(1) Notices

--issued previously during the same inspection,
--issued within 90 days before the inspection

and,

--there are no "outstanding" 104(c)(1) or 104(c)(2)Orders.

In this situation you should issue a 104(c)(1) Notice.

(The term "outstanding" is used to denote either a 104(c)(1) or 104(c)(2) Order which has been issued during any prior inspection and there has been no inspection of the entire mine made("regular" inspection) since the issuance of the last Order, whether 104(c)(1) or 104(c)(2), which reveals no unwarrantable failure violation (a "clean" inspection).)

Situation 2: - During an inspection you observe an unwarrantable failure violation and issue a 104(c)(1) Notice. During that same inspection you observe a second unwarrantable failure violation. You should issue a 104(c)(1) Order, and continue to issue 104(c)(1) Orders for each unwarrantable failure violation observed during that same inspection.

Situation 3: - During an inspection you have observed one unwarrantable failure violation and have issued a 104(c)(1) Notice. No 104(c) Order has been issued since the 104(c)(1) Notice was issued. During a subsequent inspection made more than 90 days from the issuance of the 104(c)(1) Notice you observe another unwarrantable failure violation. You should issue a 104(c)(1) Notice. The violation must have been observed within 90 days from the issuance of the first 104(c)(1) Notice.

Situation 4: - During an inspection you have issued a 104(c)(1) Notice. During a subsequent inspection made within 90 days of the issuance of the Notice you observe an unwarrantable failure violation. You should issue a 104(c)(1) Order. For all subsequent unwarrantable failure violations observed during that same inspection in which the first 104(c)(1) Order was issued you should issue 104(c)(1) Orders.

Situation 5: - During an inspection you have issued a 104(c)(1) Notice. During that same inspection or during a subsequent inspection made within 90 days of the issuance of the 104(c)(1) Notice you have issued a 104(c)(1) Order. During any inspection made subsequent to the inspection in which the 104(c)(1) Order was issued you should issue a 104(c)(2) Order for each unwarrantable failure violation observed. You will continue to issue 104(c)(2) Orders during all subsequent inspections without regard to the time which has elapsed or expired (whether less than or more than 90 days) since the original 104(c)(1) Notice was issued until a complete inspection of the entire mine ("regular" inspection) has been made which reveals no unwarrantable failure violation ("clean" inspection).

Situation 6: - A 104(c)(1) Notice and a 104(c)(1) Order have been issued. A complete inspection of the entire mine ("regular" inspection) has been made at anytime after the 104(c)(1) Order was issued and such inspection reveals no unwarrantable failure violations. Thereafter, an unwarrantable failure violation is observed during a subsequent inspection made anytime (even though it is made within 90 days of the issuance of the original 104(c)(1) Notice) after the inspection during which no unwarrantable failure violations were observed. The "clean" inspection has "wiped the slate clean." You should issue a 104(c)(1) Notice, because the initiating procedures of 104(c) have been reinstated by the "clean" inspection. The same procedures are followed where a 104(c)(2) Order had been issued before the "clean" inspection.

Situation 7: - A 104(c)(1) Notice has been issued. One or more complete inspections of the entire mine have been made during which no unwarrantable failure violation was observed. However, an inspection is then made and such inspection is made within 90 days of the issuance of the 104(c)(1) Notice, and during this inspection an unwarrantable failure violation is observed. A 104(c)(1) Order should be issued.

(The "triggering" effect of a 104(c)(1) Notice ceases in one of two ways--

(I) --by the elapse or expiration of the 90 day period after the issuance of the 104(c)(1) Notice and (1) no inspection of the mine was made during the 90 day period, or, (2) one or more inspections (whether "spot" or "regular") of the mine has been made and no other unwarrantable failure violation was observed during such inspection made within the 90 day period.

(II) --by the issuance of a 104(c)(1) or 104(c)(2) Order during the 90 day period following the issuance of the 104(c)(1) Notice. Once a 104(c)(1) or 104(c)(2) Order has been issued within 90 days after the issuance of the 104(c)(1) Notice the inspector need not concern himself with the amount of time which has elapsed or expired since the issuance of the Notice, but need only concern himself with whether an inspection of the entire mine has been made since the issuance of the last 104(c)(1) or 104(c)(2) Order which reveals no unwarrantable failure violation.)

Preparation

Notices of Violation shall be written promptly after a violation of the Act is observed, and two copies thereof, except those issued on Form 317(c), shall be handed to the agent of the operator who accompanies the inspector. Promptly, as used here, is interpreted to mean underground, if practicable. The operator is required to post one copy of each such notice on the mine bulletin board.

Every effort shall be made to return to the mine upon expiration of the reasonable time as specified on the Notice; the time limit shall not be set to expire at an hour at which it would be unlikely that the inspector would return to the mine to determine whether the violation was abated.

Notices shall be numbered sequentially beginning each day with No. 1, and the inspector's initials shall be recorded after the number.

Orders and Notices issued shall contain a detailed description of the conditions or practices which constitute an imminent danger or a violation. It is imperative when writing violations to give sufficient information as to the conditions and practices involved so that the degree of danger or magnitude of the violation is evident.

The inspector shall record in longhand the following statement on the original of each Notice issued under Sections 104(b) Notice to provide Safeguards, 104(h)(1) and 317(c):

"Served to_____(name) at_____(place)
on_____(date) at approximately_____(time)."

"Place" means identification of the section or area of the mine where the Notice was handed to the operator or miner.

The Act defines "miner" as any individual working in a coal mine. Therefore, "miner" includes any employee, engineer, company official, Federal or State inspector, visitor, representative of a manufacturer, or anyone else who is in the mine for any reason whatsoever.

The "Continuation Sheet" shall be used when the space provided on the various forms is not adequate to contain all the information pertaining to the condition, practice, description of area, etc.

If the name of a mine or company is changed, the former identification shall be recorded directly beneath the new name on all Orders or Notices issued during the first inspection made after such change was recorded. One copy of each Order or Notice issued shall be kept in the inspector's file.

Transmittal and Distribution of Orders and Notices

At the close of each inspection day the inspector shall forward to his District or Subdistrict office the original of all Orders and Notices issued that day. Note: Orders and Notices will be transmitted as written by the coal mine inspector; therefore, the utmost care shall be used in preparing these forms.

Copies of Orders and Notices shall be attached to Form 6-1377 and forwarded from the headquarters office upon completion of the inspection to the following:

a. The mine operator.
b. The Bituminous Coal Operators' Association.
c. The headquarters and district offices of the representative of the miners of the affected mine.
d. The State mine inspection agency.
e. The Assessment Officer. This is the only copy that is to be mailed to the Washington Office of the Bureau of Mines.

No more than four copies of the inspection report and Notices and Orders should should be mailed to Labor Organizations and to mine management at any one address.

Copies of Notices issued under Section 104(h)(1) shall be mailed promptly to the Assistant Director--Coal Mine Health and Safety, and that office shall be alerted by magnafax, telegram or teletype that such Notice has been issued and is being transmitted.

Review of Notices

Any operator issued a Notice under Section 104(b) or any representative of the miners in any mine affected by such Notice may, if he believes that the period of time fixed for abatement is unreasonable, apply under Section 105 to the Board of Mine Operations Appeals for review within 30 days of receipt of such Notice.

The filing of such application shall not operate as a stay of any Notice.

Modifying, terminating, or vacating Notices

Any authorized representative of the Secretary, including the one who issued the Notice, is authorized under the Act to modify or terminate any Notice issued by such representative.

Preparation

As soon as it is determined that imminent danger exists, Form 6-1384, Mine or Equipment "Closed" Poster, shall be posted conspicuously so that it will be seen by anyone approaching the area. For example: At the portal of the mine if the entire mine is closed; at the entrance to the section if a section is closed, or on the controls of equipment if equipment is involved. (See poster on following page.)

Orders of Withdrawal shall be written and two copies handed to the agent of the operator accompanying the inspector, immediately after the "Closed" sign is posted. "Immediately," as used here, is interpreted to mean underground if possible, when the danger is underground. If it is impossible to write an order underground, posting of a "Closed" poster is considered as notice to the operator in writing that an order has been issued. This shall be supplemented with a regular Withdrawal Order when the inspector reaches the surface. The operator is required to post one copy of each Order on the mine bulletin board.

All of the conditions which constitute imminent danger are to be combined in one Order rather than writing separate Orders for each category of imminent danger whether these conditions cause closure of the entire mine or are confined to one area of the mine.

If one set of conditions warrants issuance of an Order on one part or section of the mine and other sets of conditions cause closure of other parts, then separate Orders must be issued in order to release one part and continue another part or parts under Order.

Only those conditions which constitute imminent danger shall be included in the imminent danger Order. Other observed violations which do not contribute to the imminent danger hazard shall be cited in Notices of Violation.

A separate Order shall be prepared for each violation that is not abated within the period of time granted for abatement or extended and for Orders issued on Form 104(c)(1) and (c)(2). In some instances a combination of violations of the Act constitutes imminent danger and an Order must be issued.

If an employee is involved in a violation of a Bureau of Mines approved roof-control plan, the name of the employee or employees and his or their immediate supervisor shall appear on the Notice or Order, but emphasis shall be placed on the violation rather than on the persons when the violation is written. For an example see: "Form 1, example D."

Form 6-1384

POSTER

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON, D.C.

CLOSED

NOTICE IS HEREBY GIVEN THAT EXCEPT, TO THOSE PERSONS REFERRED TO IN SECTION 104 (d) OF THE FEDERAL COAL MINE HEALTH AND SAFETY ACT OF 1969.

☐ All areas beyond and inby this sign are CLOSED.

☐ The equipment to which this sign is attached has been withdrawn from service

DATE

FEDERAL COAL MINE INSPECTOR

Orders shall be numbered sequentially beginning each day with No. 1, and the inspector's initials shall be recorded after the number.

The "Continuation Sheet" shall be used when the space provided on the various forms is not adequate to contain all the information pertaining to the condition, practice, description of area, etc.

When an inspector investigates a reported explosion or fire, he shall be guided by the following instructions in issuing imminent danger Orders:

a. If the inspector finds evidence in the form of surface destruction that an explosion has occurred underground, he shall issue promptly, and before going underground, an imminent danger Order on the entire mine.

b. If the inspector finds evidence in the form of smoke and/or carbon monoxide issuing from the portal that a fire has occurred underground, he shall issue promptly, before going underground, an imminent danger Order on the entire mine.

c. If the inspector is apprised by a responsible representative of management, labor, or the State than an explosion has occurred or a fire is burning underground, he shall issue promptly, before going underground, an imminent danger Order on the entire mine.

If the inspector does not find surface evidence that an explosion or fire has occurred underground or is not apprised by a representative of management, labor, or the State than an explosion or fire has occurred underground,after determining that conditions permit, he shall proceed into the mine to make an examination. If he finds that imminent danger exists, he shall issue an imminent danger Order. However, if another Federal inspector is available on the surface, the inspector underground shall relay the information to the inspector on the surface who shall issue such an Order. Immediately upon his return to the surface, the inspector who ascertained the danger shall also sign the Order.

Whenever an inspector issues a 104(a) Withdrawal Order for any condition which constitutes imminent danger, and mine management has voluntarily withdrawn persons from the mine or affected area prior to the issuance of such Order, the action on the part of mine management shall be written on the Order.

The inspector shall issue Withdrawal Orders in those instances where it is necessary for the Bureau to maintain control of the mine or area affected until the investigation or recovery operations are completed.

Any authorized representative of the Secretary, including the one who issued the Order, is authorized under the Act to modify, terminate, or vacate any Order issued by such representative.

Interconnected mines. Where areas considered to be a single mine because of underground connections are being mined by different operators or by the same operator, and any danger is found in one mine that may affect the safety of the miners in the connected mine, Orders shall be issued to the operators of both areas.

Opening sealed area covered by an Order. If an imminent danger Order is issued and the mine or any portion thereof is subsequently sealed, a supplemental imminent danger Order shall be issued prohibiting the operator from opening such seals until such supplemental Order is terminated. Termination of the supplemental Order shall not terminate any other imminent danger Order issued covering the condition that required the sealing.

Orders at abandoned mines. Where a mine has been abandoned (temporarily or permanently) and cited violations of the Act have not been totally abated at the time of abandonment, a separate Order shall be issued, as applicable, for each such violation.

Orders on abandoned areas. Where an area or areas have been abandoned as a result of an Order or otherwise abandoned after an Order was issued, the operator of the mine involved shall be invited to request a special inspection indicating that the area affected by the Order has been permanently abandoned.

Review of Orders. Any operator issued an Order under Section 104 or any representative of miners in any mine affected by such Order or any modification or termination of such order, may apply under Section 105 to the Board of Mine Operations Appeals for review of the order within 30 days of receipt thereof or within 30 days of its modification or termination.

The filing of such application shall not operate as a stay of any order.

Any order or decision issued by the Secretary of the Interior or the Interim Compliance Panel, except an order or decision issued under Section 104(a) pertaining to penalties, is subject to review by the United States Court of Appeals for the Circuit in which the affected mine is located or the United States Court of Appeals for the District of Columbia Circuit.

Violation of Orders. If any authorized representative has reason to believe that an operator has willfully violated or failed or refused to comply with any Order issued under Section 104 of the Act, such representative shall promptly notify his District or Subdistrict Manager who shall promptly notify the Assistant Director--Coal Mine Health and Safety.

Violations of Title I of the Act. Notices or Orders shall not be issued for violations of any provision of Title I of the Act; however, where such violations are observed at a mine, the inspector shall prepare a memorandum to the District or Subdistrict Manager stating what the violation is and any other information that may be useful. The District or Subdistrict Manager shall then prepare a letter to the operator stating what the violation is, that he is subject to a civil penalty under Section 109 of the Act, and that the Assessment Officer will be so informed of the violation. The letter shall be signed by the District or Subdistrict Manager. A memorandum shall then be prepared for the Assessment Officer with a copy of the letter to the operator and any other information that may be useful.

The following are possible violations of Title I of the Act:

	Section of Act	
(a)	103(b)(1)	Refusal to permit entry of an authorized representative of the Secretary to, upon, or through any coal mine.
(b)	103(e)	Failure to give notification of an accident and/or failure to take appropriate measures to prevent the destruction of any evidence which could assist in investigating the cause or causes thereof.
(c)	107(a)	Failure to maintain an office with a conspicuous sign designating it as the office of the mine and a bulletin board at such office or at some conspicuous place near an entrance of the mine, and failure of the operator or his agent to post Notices, Orders, or decisions on such bulletin board.
(d)	107(d)	Failure to file names and addresses of responsible officials with the Secretary.
(e)	110(b)	Wrongful discharge of or discrimatory action against a miner.
(f)	111(a)	Failure to investigate and report accidents.
(g)	111(b)	Failure to establish and maintain required records.

USE OF FORMS

Form 1 is used to cite an imminent danger Order of Withdrawal 104(a), a Notice of Violation 104(b), a Notice of Violation 104(c)(1), an Order of Withdrawal 104(c)(1), and an Order of Withdrawal 104(c)(2).

Form 2 is used: (a) to abate a Notice issued on Form 1, 104(b) or 104(c)(1); (b) to grant an extension of time to abate a violation cited in a Notice issued on Form 1, 104(b) or 104(c)(1).

Form 2 is also used to issue an order to have persons withdrawn from a mine or portion thereof for failure of an operator to abate a violation cited in a Notice issued on Form 1, 104(b) or 104(c)(1).

Form 2, 104(g) Termination of Order is used by an inspector to terminate any Order issued on Form 1, 104(a), 104(b), 104(c)(1), or 104(c)(2). This form may be used also for vacating a Notice or Order issued in error.

Form 2, 104(g) Modification of Order is used by an inspector to modify an order issued on Form 1, 104(a), 104(c)(1), 104(c)(2), or Form 2, 104(b).

Although Form 1 (6-1382) mentions "health" and safety, the new Notice and Order forms shall not be used for citing violations under Section 104(i) or for safeguards. The old forms shall be used for this purpose until new ones are prepared.

Form 104(h)(1) Notice is issued when conditions are found which have not yet resulted in imminent danger, which cannot be effectively abated through the use of existing technology, and if reasonable assurance cannot be provided that the continuance of mining operations under such conditions will not result in an imminent danger.

Form 317(c) Notice of Violation is issued to a miner who willfully violates the mandatory safety standards relating to smoking or the carrying of smoking materials, matches, or lighters.

Form 104(b) Notice to Provide Safeguards is issued (1) when any of the criteria in 75.300-2 through 75.300-3, inclusive, for approval of main fan installation and operation is considered necessary, or (2) when any of the "other safeguards" listed as criteria in the sections in the 75.1403 series are cited (other than conditions which constitute imminent danger) or any requirement, other than those published as criteria in 75.1403, which in the judgment of the inspector or District or Subdistrict Manager, is needed to minimize hazards with respect to transportation of men and materials. The wording on the Notice for the safeguard being required should be a general statement whenever possible, to avoid issuing

additional Notices at the same mine for similar conditions at a later time. For example, if ample clearance was not provided along 1 right haulage tracks, the wording of the Notice should be similar to the following: "A continuous clearance on one side of at least 24 inches from the farthest projection of normal traffic shall be provided along all track haulageways in this mine." This would avoid issuing another Safeguard Notice at the same mine if such conditions as described were observed at another location in the same mine at a later time.

Form 104(b) Notice of Extension--To Provide Safeguard is used:

(a) To abate a Safeguard Notice issued on Form 104(b) Notice to Provide Safeguards.

(b) To grant an extension of time to abate a violation cited in a Notice issued on Form 104(b) Notice to Provide Safeguards.

Signing of Notices and Orders: The inspector shall sign the original and each copy of Notices and Orders with ink or ballpoint pen.

Form 1 - Example A

Example A shows how Form 1 is used for the issuance of a Withdrawal Order under Section 104(a). This Order of Withdrawal is issued to have persons withdrawn from a mine or portion thereof for imminent danger. "Imminent danger" means the existence of any condition or practice in a coal mine which could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

Conditions or practices that create a health hazard shall not be considered as constituting imminent danger.

The inspector shall:

1. Fill in the name of the mine, location, and mine I.D. No.
2. Check the block "Order" and in the No.___ fill in the number of the Order issued on that date and his initials.
3. Fill in the Time, Date, and the name of the person upon whom the Order is served.
4. The condition or practice which constitutes the Imminent Danger shall be described in detail.
5. If men were withdrawn prior to the issuance of Order, check appropriate box.
6. Check the imminent danger box.
7. Check the box next to the word "Order" under "Action Required" and describe the area of the mine from which persons are to be withdrawn and prohibited from entering.
8. The Order shall then be signed by the inspector.
9. In the lower left corner, check appropriate box (104(a).

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

1 Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☒ ORDER ☐ NOTICE No. 1 JD

Time: 9:30 ☒ A.M. ☐ P.M. Date: November 5, 1971 Sam Jones, Superintendent
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

The air at the working face of No. 1 entry 6 right 1 main section contained 2 per centum of methane when tested with a permissible methane detector more than 12 inches (14 inches) from the roof, face and left rib. Only 1,500 cubic feet of air a minute was reaching the working face of No. 1 entry and only 6,000 cubic feet of air a minute was reaching the last open crosscut between Nos. 1 and 2 entries of 6 right section, and the continuous mining machine was in operation at the face of No. 1 entry.

[Cont'd Sheet No.]

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☒ An IMMINENT DANGER EXISTS in that the condition or practice described could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

☐ There has been a violation of §_____ of Part_____, Title 30, Code of Federal Regulations, mandatory health or safety standard, but the violation has not created an imminent danger.

☐ The undersigned further finds:

☐ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☐ The violation was found ☐ during the same inspection in which
☐ during a subsequent inspection made within 90 days after

Notice No._____ was issued on _____, 19_____
and is also caused by an unwarrantable failure to comply with such standard.

☐ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No._____ on_____, 19_____, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☐ NOTICE The violation of the mandatory health or safety standard described above shall be totally abated by _____ o'clock _____ on _____, 19_____

☒ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

Entire 6 right 1 main section.

Cont'd Sheet No._____

Signed John Doe
Authorized Representative

Orders 104 (a) ☒ 104 (c) (1) ☐ 104 (c) (2) ☐
Notices 104 (b) ☐ 104 (c) (1) ☐

115

Form 1

Form 1 - Example B

Example B shows how Form 1 is used for the issuance of a Notice of Violation of a mandatory safety standard under the provisions of Section 104(b). This Notice is issued for a violation of any mandatory safety standard that does not create an imminent danger and is not caused by unwarrantable failure of the operator to comply with such standard.

The inspector shall:

1. Fill in the name of the mine, location, and mine I.D. No.
2. Check the block "Notice" and in the No._____ fill in the number of the Notice issued on that date and his initials.
3. Fill in the Time, Date, and the name of the person upon whom the Notice is served.
4. The condition or practice which constitutes the violation of a standard shall be described in detail under "Condition or Practice."
5. Check the box indicating there has been a violation of a mandatory standard and fill in the Section Number and the Part Number of Title 30.
6. Check the box next to the word "Notice" under "Action Required" and fill in the time and date when the violation shall be totally abated.
7. The Notice shall then be signed.
8. In the lower left corner, check appropriate box (104(b)).

6-1332

EXAMPLE B

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00501

☐ ORDER ☒ NOTICE No. 1 JD

Time: 10:30 ☒ A.M. ☐ P.M. Date: November 5, 19 71 Sam Jones, Superintendent
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

The three insulated power wires that conducted electricity (440 volts a.c.) to the 2 main pump station were attached to wooden posts with uninsulated wire and were in contact with the coal rib at the outby corner of the crosscut in which the pump station was located.

[Cont'd Sheet No.]

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☐ An IMMINENT DANGER EXISTS in that the condition or practice described could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

☒ There has been a violation of §75.516 of Part 75, Title 30, Code of Federal Regulations, a mandatory health or safety standard, but the violation has not created an imminent danger.

☐ The undersigned further finds:

☐ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☐ The violation was found ☐ during the same inspection in which
☐ during a subsequent inspection made within 90 days after

Notice No. ____ was issued on _____, 19____
and is also caused by an unwarrantable failure to comply with such standard.

☐ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No. ____ on _____, 19____, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☒ **NOTICE** The violation of the mandatory health or safety standard described above shall be totally abated by 2:30 o'clock p.m. on November 5, 19 71

☐ **ORDER** You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

Cont'd Sheet No. ____

Signed John Doe
Authorized Representative

Orders 104 (a) ☐ 104 (c) (1) ☐ 104 (c) (2) ☐
Notices 104 (b) ☒ 104 (c) (1) ☐

Form 1

Example C shows how Form 1 is used for the issuance of a Notice of Violation of a mandatory standard under the provisions of Sec. 104(c)(1), where an imminent danger does not exist, but the violation is unwarrantable. This is the first or initial notice of an unwarrantable failure found on the inspection. A Notice will be issued and a reasonable time allowed to abate. Example C is intended to be used pursuant to the first sentence of Sec. 104(c)(1) which provides:

> "(c)(1). If, upon any inspection of a coal mine, an authorized representative of the Secretary finds that there has been a violation of any mandatory health or safety standard, and if he also finds that, while the conditions created by such violation do not cause imminent danger, such violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and if he finds such violation to be caused by an unwarrantable failure of such operator to comply with such mandatory health or safety standards, he shall include such finding in any notice given to the operator under this Act...."

The inspector shall:

1. Fill in the name of the mine, location, and mine I.D. No.
2. Check the block "Notice" and in the No._____ fill in the number of the Notice issued on that date. In Example C this is the second Notice issued on November 5, 1971, and therefore it is given the number "2 JD". (See Example B - Notice - No. 1 JD.)
3. Fill in the Time, Date, and the name of the person upon whom the Notice is served.
4. The condition or practice which constitutes the violation of a standard shall be described in detail.
5. Check the box indicating there has been a violation of a mandatory standard and fill in the Section Number and the Part Number of Title 30.
6. Check the block next to "The undersigned further finds:" and in accordance with the first sentence of 104(c)(1) finds that the violation is "unwarrantable" and check this block.
7. Check the box next to the word "Notice" under "Action Required" and fill in the time and date when the violation shall be totally abated.
8. The Notice shall then be signed.
9. In lower left corner, check appropriate box 104(c)(1) Notice.

EXAMPLE C

6-1382
(August 1971)

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE

Logan No. 2 MINE
Company: B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☐ ORDER ☒ NOTICE No. 2 JD

Time: 11:00 ☒ A.M. ☐ P.M. Date: November 5, 1971 Sam Jones, Superintendent
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

Line brattice had not been installed in No. 3 entry 2 right 2 main section where the continuous-mining machine was in operation 20 feet inby the last open crosscut, and the methane content of the air at the face was 0.9 per centum as indicated by a permissible methane detector.

[Cont'd Sheet No.]

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☐ An **IMMINENT DANGER EXISTS** in that the condition or practice described could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

☒ There has been a violation of § 75.302 of Part 75, Title 30, Code of Federal Regulations, a mandatory health or safety standard, but the violation has not created an imminent danger.

☒ The undersigned further finds:

☒ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☐ The violation was found ☐ during the same inspection in which
☐ during a subsequent inspection made within 90 days after

Notice No. _____ was issued on _____, 19____
and is also caused by an unwarrantable failure to comply with such standard.

☐ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No. _____ on _____, 19____, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☒ **NOTICE** The violation of the mandatory health or safety standard described above shall be totally abated by 11:30 a.m. o'clock November 5, 19 71

☐ **ORDER** You are hereby **ORDERED** to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

Cont'd Sheet No. _____

Signed John Doe
Authorized Representative

Orders 104 (a) ☐ 104 (c) (1) ☐ 104 (c) (2) ☐
Notices 104 (b) ☐ 104 (c) (1) ☒

Form 1

Example D shows how Form 1 is used for the issuance of a Withdrawal Order under the provisions of the second sentence of Sec. 104(c)(1) during the same inspection.

> "If, during the same inspection or any subsequent inspection of such mine within ninety days after the issuance of such notice, the notice issued under the first sentence--Example C an authorized representative of the Secretary finds another violation of any mandatory health or safety standard and finds such violation to be also caused by an unwarrantable failure of such operator to so comply, he shall forthwith issue an order requiring the operator to cause all persons in the area affected by such violation, except those persons referred to in subsection (d) of this section, to be withdrawn from, and to be prohibited from entering, such area until an authorized representative of the Secretary determines that such violation has been abated."

Example D shows how Form 1 is used under the phrase "during the same inspection."

The inspector shall:

1. Fill in the name of the mine, location, and mine I.D. No.
2. Check the block "Order" and in the No._____ fill in the number of the Order issued on that date. In Example D this is the second Order issued on November 5, 1971, and therefore it is given the number "2 JD" (See Example A--Order--issued at 9:30 a.m. on November 5, 1971, No. 1 JD.)
3. Fill in Time, Date, and the name of the person upon whom served.
4. Describe condition or practice in detail.
5. Check the block indicating there has been a violation of a mandatory standard and fill in the section and the Part Number of Title 30.
6. Make a further finding, and that the violation is unwarrantable and also check this block.
7. Check the block indicating the violation was found during the same inspection in which Notice No. 2 JD was issued on November 5, 1971, and is also "unwarrantable."
8. Since the second sentence requires that the inspector "forthwith issue an Order" check the box next to "Order" under "Action Required," and describe the area of the mine.
9. The Order shall be signed. Care must be exercised in referring to the Notice first issued under the first sentence of 104(c)(1).
10. In lower left corner check appropriate box 104(c)(1) Order.

EXAMPLE D

6-1382
(August 1971)

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE

Logan No. 2
Company: B and J Coal Company MINE
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☒ ORDER ☐ NOTICE No. 2 JD

Time: 1:00 ☐ A.M. ☒ P.M. Date: November 5, 19 71 Richard Smith-Mine Foreman
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

Temporary roof supports were not installed in the face area of No. 1 entry 5 left 1 main section as required by the Bureau of Mines approved roof control plan and John Jones, loading machine operator, supervised by William Smith, section foreman, went inby the last permanent roof supports during loading operations in the place.

[Cont'd Sheet No.]

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☐ An **IMMINENT DANGER EXISTS** in that the condition or practice described could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

☒ There has been a violation of § 75.200 of Part 75, Title 30, Code of Federal Regulations, a mandatory health or safety standard, but the violation has not created an imminent danger.

☒ The undersigned further finds:

☒ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☒ The violation was found ☒ during the same inspection in which
☐ during a subsequent inspection made within 90 days after

Notice No. 2 JD was issued on November 5, 19 71
and is also caused by an unwarrantable failure to comply with such standard.

☐ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No. ____ on ____, 19____, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☐ **NOTICE** The violation of the mandatory health or safety standard described above shall be totally abated by ____ o'clock ____ on ____, 19____

☒ **ORDER** You are hereby **ORDERED** to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

No. 1 entry 5 left 1 main section.

Cont'd Sheet No. ____

Orders 104 (a) ☐ 104 (c) (1) ☒ 104 (c) (2) ☐
Notices 104 (b) ☐ 104 (c) (1) ☐

Signed John Doe
Authorized Representative

Form 1

Form 1 - Example E

Example E shows how Form 1 is used for the issuance of a Withdrawal Order under the provisions of the second sentence of Section 104(c)(1) pursuant to the phrase "during the same inspection or any subsequent inspection of such mine within ninety days after the issuance of such notice," the notice issued under the first sentence--Example C and the inspector finds "another violation of any mandatory" standard and finds "such violation to be also caused by an unwarrantable failure.... to comply."

In this Example the inspection is made on November 19, which is a subsequent inspection made after the issuance of Notice No. 2 JD on November 5, 1971, in Example C.

The inspector shall:

1. Fill in the name of the mine, location, and mine I.D. No.
2. Check the block "Order" and fill in the No._____ of the Order issued on that date--November 19, 1971. In Example E this is the first order issued on November 19 and therefore it is given the number 1 JD.
3. Fill in Time, Date, and person upon whom served.
4. Describe condition or practice in detail.
5. Check the block indicating there has been a violation of a mandatory standard and fill in the section and the Part Number of Title 30.
6. Make a further finding, and that the violation is unwarrantable.
7. Check the block indicating the violation was found "during a subsequent inspection" made after Notice No. 2 JD was issued on November 5, 1971, and is also "unwarrantable."
8. Check the box next to "Order" under "Action Required" and describe the area of the mine.
9. The Order shall be signed.
10. In lower left corner check appropriate box 104(c)(1) Order. Care must be exercised in referring to the Notice first issued under the first sentence of 104(c)(1).

EXAMPLE E

6-1382
(August 1971)

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE

Logan No. 2 MINE
Company: B and J Coal Company
Location Singletree, Fayette County, Pa.

I.D. No. 36-00591

☒ ORDER ☐ NOTICE No. 1 JD

Time: 9:15 ☒ A.M. ☐ P.M. Date: November 19 19 71 Homer Brown - Safety Director
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

The trolley wire was not guarded at the mantrip station in 5 right 1 main section. Open-type steel mine cars were used for mantrips and workmen loaded and unloaded into and from the mantrips in close proximity to the 550 volt DC trolley wire. Guard materials were available at the section supply depot.

[Cont'd Sheet No.]

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☐ An **IMMINENT DANGER EXISTS** in that the condition or practice described could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

☒ There has been a violation of §75.1003 of Part 75, Title 30, Code of Federal Regulations, a mandatory health or safety standard, but the violation has not created an imminent danger.

☒ The undersigned further finds:

☒ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☒ The violation was found ☐ during the same inspection in which
☒ during a subsequent inspection made within 90 days after
Notice No. 2 JD was issued on November 5, 19 71
and is also caused by an unwarrantable failure to comply with such standard.

☐ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No. ____ on ____, 19____, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☐ **NOTICE** The violation of the mandatory health or safety standard described above shall be totally abated by ____ o'clock ____ on ____, 19____

☒ **ORDER** You are hereby **ORDERED** to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

The area of 5 right 1 main section at and inby the mantrip station.

Cont'd Sheet No. ____

Orders 104 (a) ☐ 104 (c) (1) ☒ 104 (c) (2) ☐
Notices 104 (b) ☐ 104 (c) (1) ☐

Signed John Doe
Authorized Representative

Form 1

Form 1 - Example F

Example F shows how Form 1 is used for the issuance of a Withdrawal Order under the provisions of section 104(c)(2) which provides:

> "(2) If a Withdrawal Order with respect to any area in a mine has been issued pursuant to paragraph (1) of this subsection, a Withdrawal Order shall promptly be issued by an authorized representative of the Secretary who finds upon any subsequent inspection the existence in such mine of violations similar to those that resulted in the issuance of the Withdrawal Order under paragraph (1) of this subsection until such time as an inspection of such mine discloses no similar violations. Following an inspection of such mine which discloses no similar violations, the provisions of paragraph (1) of this subsection shall again be applicable to that mine."

In example F the inspection was made on January 20, 1972, which was a subsequent inspection made after the issuance of Withdrawal Order No. 1 JD on November 19, 1971, and no inspection of the mine had been made since such date which disclosed no similar violation. This is so because, during the inspection made on November 19, an unwarrantable Withdrawal Order was issued (see Example E). It is possible that the relation could be made to the Withdrawal Order issued on November 19. As long as no complete regular inspection made between November 5 and January 20 disclosed no similar violation, this Order can be related to No. 2 JD issued on November 5, but as stated, Example F could be related to November 19.

The inspector shall:

1. Fill in the name of the mine, location, and mine I.D. No.
2. Check the block "Order" and fill in the No.____ of the Order issued on that date--January 20, 1972. In Example F, this is the first Order issued on January 20th, therefore is given the number "1 JD."
3. Fill in Time, Date, and person upon whom served.
4. Describe condition or practice in detail.
5. Check the block indicating there has been a violation of a mandatory standard and fill in the section and the Part Number of Title 30.
6. Make a further finding, and that the violation is unwarrantable.
7. Check the block indicating the violation is similar to the violation which resulted in the issuance of Withdrawal Order No. 2 JD issued on November 5, 1971 (or November 19, 1971, No. 1 JD, Example E) and no inspection has been made since such date which disclosed no similar violation.
8. Check the box next to "Order" under "Action Required" and describe the area of the mine.
9. Sign the Order.
10. In lower left corner, check appropriate box 104(c)(2) Order.

EXAMPLE F

Sample 1

UNITED STATES
D RTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Log No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☒ ORDER ☐ NOTICE No. 1 JD

Time: 8:30 ☒ A.M. ☐ P.M. Date January 20 19 72 Homer Brown - Safety Director
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

The trailing cable on No. 2 shuttle car being operated in 6 right 1 main section contained four temporary splices. Approved materials for making permanent-type splices were available on the section and replacement cables were available at the supply house on the surface.

{Cont'd Sheet No.}

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☐ An IMMINENT DANGER EXISTS in that the condition or practice described could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

☒ There has been a violation of § 75.603 of Part 75, Title 30, Code of Federal Regulations, a mandatory health or safety standard, but the violation has not created an imminent danger.

☒ The undersigned further finds:

☒ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☐ The violation was found ☐ during the same inspection in which
☐ during a subsequent inspection made within 90 days after

Notice No. _____ was issued on _____, 19_____
and is also caused by an unwarrantable failure to comply with such standard.

☒ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No. 2 JD on November 5, 19 71, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☐ NOTICE The violation of the mandatory health or safety standard described above shall be totally abated by _____ o'clock _____ on _____, 19_____

☒ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

This Order prohibits the use of the No. 2 shuttle car.

Cont'd Sheet No. _____

Signed John Doe
Authorized Representative

Orders 104 (a) ☐ 104 (c) (1) ☐ 104 (c) (2) ☒
Notices 104 (b) ☐ 104 (c) (1) ☐

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Form 7

Form 2

Form 2 is to be used to cover actions taken subsequent to the issuance of a Notice or an Order on Form 1. The Form is designed for use in the Modification of an Order, Modification of a Notice, Extension of Time, Extension of Extended Time, Notice of Abatement of Violations, Termination of Orders or Notices, Vacation of Orders or Notices, and Issuance of a Withdrawal Order After Expiration of Time.

Form 2 - Example G

Example G shows the use of Form 2 to Modify an Order previously issued on Form 1 or on Form 2. Example G, Form 2, is used to modify the Order used in Example A.

The inspector shall:

1. Fill in name of mine, location, mine I.D. No., time,date, and name of person served.
2. Check appropriate box--in this example the inspection was made at the request of the operator.
3. Make reference to Order No. and date of issue.
4. Find that the condition has been partially abated.
5. Describe what action the operator has taken to abate.
6. Since this is a Modification of an Order, there is no time to be extended and hence, no entry or boxes checked.
7. Show that the Order is modified and in what way it is modified.
8. Check the box next to "Order" under "Action Required" and describe the area of the mine.
9. Sign Modification Order

EXAMPLE G

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE

Logan No. 2 MINE

Company B and J Coal Company

Location Singletree, Fayette County, Pa.

I.D. No. 36-00591

☒ ORDER ☐ NOTICE No. 2 JD

Time: 3:00 ☐ A.M. ☒ P.M. Date: November 5, 19 71 Richard Smith, Mine Foreman
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior upon making an inspection of the above named mine on this date and ☐ upon the expiration of a period of time as originally fixed ☐ upon the expiration of a period of time as extended ☒ upon the request of the operator Finds that the condition or practice set forth in

☒ ORDER(S) NO.(S) 1 JD dated November 5, 19 71

☐ NOTICE(S) NO.(S) ____ dated ____, 19____

has ☐ been totally abated ☒ been partially abated ☐ not been abated

Action Taken to Abate

The line curtain in No. 1 entry 6 right 1 main section was repaired. The quantity of air reaching the working face was increased to more than 3,000 cubic feet a minute and the methane content was reduced to less than 1.0 per centum. However, the quantity of air reaching the last open crosscut between Nos. 1 and 2 entries could not be increased due to a roof fall in the return aircourse; this problem can be eliminated by driving a 75-foot connecting entry to the 7 right aircourse which will be permitted by this modification.

and the undersigned further finds that the period of time fixed in said Notice(s) should

☐ extended to the time fixed below ☐ not be extended.

Reason for Extension

Said ☒ ORDER(S) ☐ NOTICE(S) No.(s) 1 JD

☐ is or are hereby ☐ terminated ☐ vacated

☐ shall remain in full force and effect as issued

☒ is or are hereby modified as follows, and except as modified shall remain in full force and effect:

This will permit a 75-foot connecting entry to be driven from 6 right to 7 right return aircourse.

ACTION REQUIRED

☐ NOTICE The condition or practice shall be totally abated by ____ o'clock ____ on ____, 19____

☒ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the condition or practice no longer exists and has been totally abated:

Area of Mine

All working places in 6 right 1 main section, except the 75-foot connecting entry between 6 right return aircourse and 7 right return aircourse.

Signed John Doe
Authorized Representative

Order 104(b) ☐

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Form 2

Form 2 - Example H

Example H shows the use of Form 2 to issue a Withdrawal Order after the time has expired as originally fixed in a Notice of Violation. The reference is to Example B.

The inspector shall:

1. Check "Order" box and fill in name of mine, location, mine I.D. No., time, date, and name of person served.
2. Check box showing that the inspection was made upon the expiration of time as originally fixed in Example B.
3. Make reference to Notice No. 1 JD, November 5, 1971.
4. Check the box showing the condition or practice has not been abated.
5. Describe action taken by operator to abate if any.
6. Find that time should not be extended.
7. Check "Order" box under "Action Required" and describe area of mine.
8. Sign the Order.
9. In lower left corner, check box 104(b) Order.

EXAMPLE II

Symbol 4

UNITED STATES
EPA MENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE

Company B and J Coal Company

Location Singletree, Fayette County, Pa.

I.D. No. 36-00591

☒ ORDER ☐ NOTICE No. 1 JD

☐ A.M.
Time: 3:00 ☒ P.M. Date: November 5 19 71 Sam Jones - Superintendent
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior upon making an inspection of the above named mine on this date and ☐ upon the expiration of a period of time as originally fixed ☐ upon the expiration of a period of time as extended ☐ upon the request of the operator Finds that the condition or practice set forth in

☐ ORDER(S) NO.(S) _____ dated _____, 19____

☒ NOTICE(S) NO.(S) 1 JD dated November 5, 19 71

has ☐ been totally abated ☐ been partially abated ☒ not been abated

Action Taken to Abate

The three insulated power wires, contacting combustible materials at 2 main pump station, had not been installed on insulators.

and the undersigned further finds that the period of time fixed in said Notice(s) should
☐ be extended to the time fixed below ☒ not be extended.

Reason for Extension

Said ☐ ORDER(S) ☐ NOTICE(S) No.(s) _____

☐ is or are hereby ☐ terminated ☐ vacated

☐ shall remain in full force and effect as issued

☐ is or are hereby modified as follows, and except as modified shall remain in full force and effect:

ACTION REQUIRED

☐ NOTICE The condition or practice shall be totally abated by _____ o'clock _____ on _____, 19____

☒ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the condition or practice no longer exists and has been totally abated:

Area of Mine

2 main pump station.

Order 104 (b) ☒

Signed John Doe
Authorized Representative

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Form 2

Form 2 - Example I

Example I shows the use of Form 2 to terminate an Order. Even though an Order has been modified, due to corrections which have been made, that part of the Order not covered by the modification is still in effect and must be terminated by some additional action (104(g) Termination of Order). Therefore, reference must be made to the original Order.

Example I refers to the original Order No. 1 JD issued on November 5 (Example A) and, to show a modification, reference is also made to No. 2 JD issued on November 5 (Example G).

The inspector shall:

1. Check Order box, fill in name of mine, location, mine I.D. No., time, date, and the name of person served.
2. Show inspection made at request of operator.
3. Make reference to Withdrawal Orders to which this Termination Order applies.
4. Check box showing condition has been totally abated.
5. Describe action taken by operator to abate.
6. Refer to Orders of Withdrawal and check box showing the Orders are terminated.
7. Sign Termination Order.

EXAMPLE I

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☒ ORDER ☐ NOTICE No. 1 JD

Time: 3:00 ☐ A.M. ☒ P.M. Date November 6 19 71 Richard Smith - Mine Foreman
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior upon making an inspection of the above named mine on this date and ☐ upon the expiration of a period of time as originally fixed ☐ upon the expiration of a period of time as extended ☒ upon the request of the operator Finds that the condition or practice set forth in

☒ ORDER(S) NO.(S) 1 JD dated November 5, 1971

☐ NOTICE(S) NO.(S) ____ dated ____, 19____

has ☒ been totally abated ☐ been partially abated ☐ not been abated

Action Taken to Abate

The 75-foot connecting entry between 6 right return aircourse and 7 right return aircourse has been completed and the quantity of air reaching the last open crosscut between Nos. 1 and 2 entries, 6 right section was increased to more than 9,000 cubic feet a minute.

and ndersigned further finds that the period of time fixed in said Notice(s) should
e extended to the time fixed below ☐ not be extended.

Reason for Extension

Said ☒ ORDER(S) ☐ NOTICE(S) No.(s) 2 JD November 5, 1971

☒ is or are hereby ☒ terminated ☐ vacated

☐ shall remain in full force and effect as issued

☐ is or are hereby modified as follows, and except as modified shall remain in full force and effect:

ACTION REQUIRED

☐ NOTICE The condition or practice shall be totally abated by ____ o'clock ____ on ____, 19____

☐ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the condition or practice no longer exists and has been totally abated:

Area of Mine

Signed John Doe
Authorized Representative

Order 104(b) ☐

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Form 2

Form 2 - Example J

Example J shows the use of Form 2 to extend the period of time for abatement of violations of Sections 104(b) and 104(c)(1).

The inspector shall:

1. Fill in the name of the mine, location, mine I.D. No., time, date, the name of person served and check the block "Notice" and in the No.___ fill in the number of the extension issued on that date and his initials.
2. Check block preceding "upon the expiration of a period of tim as originally fixed" or whichever is appropriate.
3. Make reference to the particular Notice to which this Notice of Extension applies.
4. Check box showing condition has not been totally abated.
5. Check box indicating Notice has been extended, and give reason for extension.
6. Check appropriate boxes after reason given for extension.
7. Check the box "Notice" under "Action Required" and fill in the time and date when the violation shall be totally abated.
8. Sign the Notice of Extension.

EXAMPLE J

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☐ ORDER ☒ NOTICE No. 1 JD

Time: 2:30 ☐ A.M. ☒ P.M. Date: November 5 19 71 Sam Jones - Superintendent
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior upon making an inspection of the above named mine on this date and ☒ upon the expiration of a period of time as originally fixed ☐ upon the expiration of a period of time as extended ☐ upon the request of the operator Finds that the condition or practice set forth in

☐ ORDER(S) NO.(S) _____ dated _____, 19____

☒ NOTICE(S) NO.(S) 1 JD dated November 5, 19 71

has ☐ been totally abated ☐ been partially abated ☒ not been abated

Action Taken to Abate

and the undersigned further finds that the period of time fixed in said Notice(s) should
☒ extended to the time fixed below ☐ not be extended.

Reason for Extension

The operator had difficulty in obtaining suitable insulators; therefore, start of the work of correcting the violation, which is now in progress, was delayed.

Said ☐ ORDER(S) ☒ NOTICE(S) No.(s) 1 JD

☐ is or are hereby ☐ terminated ☐ vacated

☒ shall remain in full force and effect as issued

☐ is or are hereby modified as follows, and except as modified shall remain in full force and effect:

ACTION REQUIRED

☒ NOTICE The condition or practice shall be totally abated by 3:00 o'clock p.m. on November 5, 19 71

☐ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the condition or practice no longer exists and has been totally abated:

Area of Mine

Signed John Doe
Authorized Representative

Order 104 (b) ☐

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Form 2

Form 2 - Example K

Inspector returns at expiration of time allowed after a Notice was issued or the allowed time was extended and finds that the violation had been totally abated, therefore, he terminates the Notice.

The inspector shall:

1. Fill in the name of the mine, location, mine I.D. No., time, date, the name of person served, and check the block "Notice".
2. Check block preceding "upon the expiration of a period of time as originally fixed" or whichever is appropriate.
3. Make reference to the particular Notice to which this Notice of Abatement applies.
4. Check box showing condition has been totally abated and state what action had been taken to abate it.
5. Check appropriate boxes indicating termination and identification of such Notice.
6. Sign the Notice of Abatement.

EXAMPLE K

Sym'bs: 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☐ ORDER ☒ NOTICE No. 2 JD

Time: 3:00 ☐ A.M. ☒ P.M. Date: November 5 19 71 Sam Jones - Superintendent
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior upon making an inspection of the above named mine on this date and ☐ upon the expiration of a period of time as originally fixed ☒ upon the expiration of a period of time as extended ☐ upon the request of the operator Finds that the condition or practice set forth in

☐ ORDER(S) NO.(S) _____ dated _____, 19____

☒ NOTICE(S) NO.(S) 1 JD dated November 5, 19 71

has ☒ been totally abated ☐ been partially abated ☐ not been abated

Action Taken to Abate

The power wires were installed on insulators.

and th dersigned further finds that the period of time fixed in said Notice(s) should
☐ extended to the time fixed below ☐ not be extended.

Reason for Extension

Said ☐ ORDER(S) ☒ NOTICE(S) No.(s) 1 JD

☒ is or are hereby ☒ terminated ☐ vacated

☐ shall remain in full force and effect as issued

☐ is or are hereby modified as follows, and except as modified shall remain in full force and effect:

ACTION REQUIRED

☐ NOTICE The condition or practice shall be totally abated by _____ o'clock _____ on _____, 19____

☐ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the condition or practice no longer exists and has been totally abated:

Area of Mine

Signed John Doe
Authorized Representative

Order 104 (b) ☐

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Form 2

Form 2 - Examples 1 (1) and (2)

Example 1 (2) shows the use of Form 2 to vacate a Notice or Order issued in error (Example 1 (1)).

The inspector shall:

1. Fill in the name of the mine, location, mine I.D. No., time, date, the name of person served and check block Order or Notice as applicable.
2. Make reference to the particular Order or Notice to which this action applies.
3. State under "Action Taken to Abate," the reason the Order or Notice was vacated.
4. Check appropriate boxes following reason for extension and fill in Order or Notice No.
5. Sign the vacated action.

EXAMPLE L (1)

6-1382
(August 1971)

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE

Logan No. 2 MINE
Company: B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☐ ORDER ☒ NOTICE No. 1 JD

Time: 9:15 ☒ A.M. ☐ P.M. Date: November 10 19 71 Richard Smith - Mine Foreman
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

The floor of No. 4 intake entry 7 right 1 main section was inadequately rockdusted from No. 4 room to No. 8 room (spot samples Nos. 1 and 2).

[Cont'd Sheet No.]

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☐ An **IMMINENT DANGER EXISTS** in that the condition or practice described could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated.

☒ There has been a violation of § 75.403 of Part 75, Title 30, Code of Federal Regulations, a mandatory health or safety standard, but the violation has not created an imminent danger.

☐ The undersigned further finds:

☐ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☐ The violation was found ☐ during the same inspection in which
☐ during a subsequent inspection made within 90 days after

Notice No. _____ was issued on _____, 19_____
and is also caused by an unwarrantable failure to comply with such standard.

☐ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No. _____ on _____, 19_____, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☒ **NOTICE** The violation of the mandatory health or safety standard described above shall be totally abated by 10:30 o'clock a.m. on November 10, 19 71

☐ **ORDER** You are hereby **ORDERED** to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

Cont'd Sheet No. _____

Signed John Doe
Authorized Representative

Orders 104 (a) ☐ 104 (c) (1) ☐ 104 (c) (2) ☐
Notices 104 (b) ☒ 104 (c) (1) ☐

Form 1

EXAMPLE L (2)

6-1383
(August 1971)

Symbol 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☐ ORDER ☐ NOTICE No. 1 JD

Time: 8:30 ☒ A.M. ☐ P.M. Date November 11, 1971 Richard Smith - Mine Foreman
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior upon making an inspection of the above named mine on this date and ☐ upon the expiration of a period of time as originally fixed ☐ upon the expiration of a period of time as extended ☐ upon the request of the operator Finds that the condition or practice set forth in

☐ ORDER(S) NO.(S) _____ dated _____, 19____

☒ NOTICE(S) NO.(S) 1 JD dated November 10, 19 71

has ☐ been totally abated ☐ been partially abated ☐ not been abated

Action Taken to Abate

Notice No. 1 JD issued November 10, 1971, was issued in error, in that laboratory analyses of the spot samples collected showed that Nos. 1 and 2 samples contained 67.5 and 68 percent incombustible, respectively.

and the undersigned further finds that the period of time fixed in said Notice(s) should
☐ be extended to the time fixed below ☐ not be extended.

Reason for Extension

Said ☐ ORDER(S) ☐ NOTICE(S) No.(s) 1 JD November 10, 1971
☒ is or are hereby ☐ terminated ☒ vacated
☐ shall remain in full force and effect as issued
☐ is or are hereby modified as follows, and except as modified shall remain in full force and effect:

ACTION REQUIRED

☐ NOTICE The condition or practice shall be totally abated by _____ o'clock _____ on _____, 19____

☐ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the condition or practice no longer exists and has been totally abated:

Area of Mine

Order 104 (b) ☐

Signed John Doe
Authorized Representative

Form 2

Example M

Example M shows the issuance of a Notice to Provide Safeguards which, in the judgment of the inspector or District or Subdistrict Manager, is needed to minimize hazards with respect to Sections 75.300-2, 75.300-3, 75.1403(b), and 75.1704-1(a) of the regulations. The wording on the Notice for the safeguard being required should be a general statement whenever possible, to avoid issuing additional Notices to Provide Safeguards at the same mine for similar conditions observed at a later time.

The inspector shall:

1. Fill in inspection symbol in upper right corner and Notice No._____.
2. Fill in originating office and date of issuance.
3. Fill in name of mine, location, and address.
4. Fill in date of inspection, safeguard required, and section of the regulations.
5. The condition or practice which constitutes the hazard shall be described in detail under "Specific Recommended Safeguards."
6. Record in longhand the following statement:
   "Served to (name) at (place) on (date) at approximately (time)."
7. Fill in time and date when the hazard shall be totally abated.
8. The Notice to Provide Safeguards shall then be signed.

EXAMPLE H

6-1485
(April 1970)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

4

NOTICE TO PROVIDE SAFEGUARDS No. 1 JD

Pittsburgh, Pa. (Originating Office) November 5, 1971 (Date of Issuance)

To the operator of the Logan No. 2 Mine (Mine)
B and J Coal Company (Company)

Singletree, Fayette County, Pa. (Location of Mine) Singletree, Pa. (P.O. address of operator)

Notice is hereby given that the undersigned authorized representative of the Secretary of the Interior upon making an inspection of this mine on November 5, 19 71, directs you to provide the following specific safeguard(s)—
adequate shelter holes
pursuant to Sec. 75.1403, Subpart O, of the Regulations promulgated under authority of Section 101 of the Federal Coal Mine Health and Safety Act of 1969 (P.L. 91-173).

Specific Recommended Safeguards:

Several crosscuts along the track haulageways that were used for shelter holes were obstructed with loose rock and refuse.

All crosscuts used as shelter holes shall be kept free of refuse or other materials to a depth of at least 15 feet.

Served to Richard Smith, Mine Foreman, at the mine office on November 5, 1971, at approximately 5:00 p.m.

You are further advised that in the event the foregoing specific safeguard(s) (are) (is) not provided by 8:30 o'clock ☒ a.m. ☐ p.m. on December 6, 19 71, a notice shall be issued to you pursuant to Sec. 104(b) of the aforesaid Act.

Signed John Doe

GPO 890-997 Form 101(b) Specific Safeguards—Notice to Provide

Example N

Example N shows how to extend the time for abatement of a Notice to Provide Safeguards.

The inspector shall:

1. Fill in inspection symbol in upper right corner and Notice No.____.
2. Fill in originating office and date of issuance.
3. Fill in name of mine, location, and address.
4. Fill in date of inspection and check box preceding "upon the expiration of a period of time as originally fixed" or whichever is appropriate.
5. Check box indicating "did not totally provide the specific safeguard and made reference to original Notice No. and date of issuance."
6. Fill in the extended time and date when the hazard shall be totally abated.
7. Give reason for extension.
8. Record in longhand the following statement:
   "Served to (name) at (place)
   on (date) at approximately (time)".
9. The Notice of Extension to Provide Safeguards shall be signed.

EXAMPLE N

6-1487
pril 1970)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

NOTICE OF EXTENSION—TO PROVIDE SAFEGUARDS No. 1 JD

Pittsburgh, Pa. (Originating Office) — December 6, 1971 (Date of Issuance)

To the operator of the Logan No. 2 Mine (Mine)

B and J Coal Company (Company)

Singletree, Fayette County, Pa. (Location of Mine) — Singletree, Pa. (P.O. address of operator)

Notice is hereby given that on December 6, 1971, the undersigned authorized representative of the Secretary of the Interior made a special inspection of the above-named mine:

☒ Upon the expiration of a period of time as originally fixed

☐ Upon the expiration of a period of time as extended

☐ Upon the request of the operator

and in accordance with Sec. 104 (b) of the Federal Coal Mine Health and Safety Act of 1969 (P.L. 91-173) finds that you ☐ totally provided or ☑ did not totally provide the specific safeguard(s) as described in Notice to Provide Safeguards No. 3 JD, dated November 5, 1971.

The time to provide the specific safeguard(s) set forth in the aforesaid Notice to Provide Safeguards is hereby extended to 8:30 o'clock ☒ a.m. ☐ p.m. on December 13, 1971

The work of clearing crosscuts used as shelter holes was in progress and, except for five obstructed crosscuts along 1 main track haulageway, the work had been completed.

Served to Richard Smith, Mine Foreman, at the mine office on December 6, 1971, at approximately 1:00 p.m.

Signed John Doe

Form 104(b) Specific Safeguards—Extension
GPO 890-995

Example O

Example O shows how to abate a Notice to Provide Safeguards.

The inspector shall:

1. Fill in inspection symbol in upper right corner and Notice No. _____.
2. Fill in name of mine, location, and address.
3. Fill in date of inspection and check box preceding "upon the expiration of a period of time as extended" or whichever is appropriate.
4. Check box indicating "totally provided" and make reference to original Notice No. and date of issuance.
5. State action taken to abate.
6. Record in longhand the following statement:
   "Served to (name) at (place) on (date) at approximately (time)".
7. The Notice of Extension to Provide Safeguards shall be signed.

EXAMPLE O

7

6-1487
(April 1970)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

NOTICE OF EXTENSION—TO PROVIDE SAFEGUARDS No. 1 JD

Pittsburgh, Pa. (Originating Office)

December 13, 1971 (Date of Issuance)

To the operator of the Logan No. 2 Mine (Mine)

B and J Coal Company (Company)

Singletree, Fayette County, Pa. (Location of Mine)

Singletree, Pa. (P.O. address of operator)

Notice is hereby given that on December 13, 1971, the undersigned authorized representative of the Secretary of the Interior made a special inspection of the above-named mine:

☐ Upon the expiration of a period of time as originally fixed

☒ Upon the expiration of a period of time as extended

☐ Upon the request of the operator

and in accordance with Sec. 104 (b) of the Federal Coal Mine Health and Safety Act of 1969 (P.L. 91-173) finds that you ☒ totally provided or ☐ did not totally provide the specific safeguard(s) as described in Notice to Provide Safeguards No. 3 JD, dated November 5, 1971.

The time to provide the specific safeguard(s) set forth in the aforesaid Notice to Provide Safeguards is hereby extended to ——— o'clock ☐ a.m. ☐ p.m. on ———, 19——.

Crosscuts which were used as shelter holes along the track haulageways have been cleared of obstructions to a depth of 15 feet.

Served to Richard Smith, Mine Foreman, at the mine office on December 13, 1971, at approximately 2:00 p.m.

Signed John Doe

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Form 104(b) Specific Safeguards- Extension
GPO 890-99

Form 1 - Example P

Example P shows how Form 1 is used for the issuance of a Notice of Violation after failure to provide a Specific Safeguard. This Notice is issued for failure to correct a hazard which in the judgment of the inspector or District Manager or Subdistrict Manager is needed to minimize dangers with respect to sections 75.300-2 through 75.300-3, 75.1403(b), and 75.1704-1(a) of the regulations.

The inspector shall:

1. Fill in name of mine, location, and mine I.D. No.
2. Check the block "Notice" and fill in Notice No.___and his initials.
3. Fill in the Time, Date, name and title of person to whom the Notice is served.
4. State condition or practice which constitutes the violation and refer to the original Notice to Provide Safeguards No. and date issued.
5. Check box indicating there has been a Violation of a Mandatory Standard and fill in the section number and part number of Title 30.
6. Check the box next to the word "Notice" under "Action Required" and fill in the time and date when the violation shall be totally abated.
7. In lower left corner, check box 104(b) and sign Notice.

EXAMPLE P

Symb 6

UNITED STATES
DE. TMENT OF THE INTERIOR
BUREAU OF MINES

Coal Mine Health And Safety District Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

TO THE OPERATOR, OR HIS AGENT, OF THE
Logan No. 2 MINE
Company B and J Coal Company
Location Singletree, Fayette County, Pa.
I.D. No. 36-00591

☐ ORDER ☒ NOTICE No. 1 JD

Time: 1:00 ☐ A.M. ☒ P.M. Date: December 6, 1971 Richard Smith Mine Foreman
(Person Served)

Pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742; 30 USC 801; PL 91-173) the undersigned duly authorized representative of the Secretary of the Interior, upon making an inspection of the above named mine on this date finds that the following described condition or practice exists in the mine:

Condition or Practice

Several crosscuts along the track haulageways that were used for shelter holes were not kept clear of loose rock and refuse to a depth of 15 feet. A Notice to Provide Safeguards, No. 3 JD, was issued November 5, 1971, and little effort had been made to abate the Safeguard Notice.

[Cont'd Sheet No.]

The undersigned finds that:

☐ Men had been withdrawn prior to issuance of this order

☐ An IMMINENT DANGER EXISTS in that the condition or practice described could reasonably be expected to cause death or us physical harm before such condition or practice can be abated.

☒ There has been a violation of § 75.1403 of Part 75, Title 30, Code of Federal Regulations, a mandatory health or safety standard, but the violation has not created an imminent danger.

☐ The undersigned further finds:

☐ the violation is of such nature as could significantly and substantially contribute to the cause and effect of a mine safety or health hazard, and is caused by an unwarrantable failure to comply with such standard.

☐ The violation was found ☐ during the same inspection in which
☐ during a subsequent inspection made within 90 days after

Notice No. ____ was issued on ____, 19____
and is also caused by an unwarrantable failure to comply with such standard.

☐ the violation is similar to the violation of the mandatory health or safety standard which resulted in the issuance of Withdrawal Order No. ____ on ____, 19____, and no inspection of the mine has been made since such date which disclosed no similar violation.

ACTION REQUIRED

☒ NOTICE The violation of the mandatory health or safety standard described above shall be totally abated by 8:30 o'clock a.m. on December 20, 19 71

☐ ORDER You are hereby ORDERED to cause immediately all persons, except those referred to in subsection (d) of section 104 of the Act, to be withdrawn from, and to be prohibited from entering, the area of the mine described below until an authorized representative of the Secretary of the Interior determines that the imminent danger no longer exists or the violation of the mandatory health or safety standard has been abated.

Area of Mine

Cont'd Sheet No. ____

Signed John Doe
Authorized Representative

Orders 104 (a) ☐ 104 (c) (1) ☐ 104 (c) (2) ☐
Notices 104 (b) ☒ 104 (c) (1) ☐

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Form 1

Form 104(h)(1) Notice is issued when conditions are found which have not yet resulted in imminent danger; which cannot be effectively abated through the use of existing technology; and if reasonable assurance cannot be provided that the continuance of mining operations under such conditions will not result in an imminent danger.

6-1356
(March 1970)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

SECTION 104(h) NOTICE

No. _____

_____ (Originating office) _____ (Date of issuance)

To the operator of the _____ (Mine)

_____ (Company)

_____ (Location of mine) _____ (P.O. address of operator)

Notice is hereby given, in accordance with Sec. 104.(h) (1) of the Federal Coal Mine Health and Safety Act of 1969 (P.L. 91–173), that the undersigned authorized representative of the Secretary of the Interior upon making an inspection of this mine on _____, 19_____, in accordance with the Act finds that the following conditions exist which have not yet resulted in an imminent danger, that such conditions cannot be effectively abated through the use of existing technology, and that reasonable assurance cannot be provided that the continuance of mining operations under such conditions will not result in an imminent danger.

Description of conditions:

Area throughout which such conditions exist:

In accordance with regulations promulgated by the Secretary of the Interior, a copy of this Notice is being filed with the Board of Mine Operations Appeals for further proceedings.

149 Signed _____

Form 317(c) Notice of Violation is issued to a miner who willfully violates the mandatory safety standards relating to smoking or the carrying of smoking materials, matches, or lighters. Notices issued on Form 317(c) shall be written promptly after a miner is observed to be in violation of Section 317(c) and one copy thereof shall be handed to such miner.

The inspector shall:

1. Fill in inspection symbol in upper right corner and Notice No._____.
2. Fill in originating office and date of issuance.
3. Fill in name of mine, location, and address.
4. Fill in date of inspection.
5. Check applicable box--"smoking" or "carrying smoking materials."
6. Fill in "location where violation was observed."
7. Record in longhand the following statement: "Copy of Notice handed to (name) at (place) immediately after the violation was observed."
8. Sign the Notice.

6-1359
(March 1970)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

1

NOTICE OF VIOLATION

No. 1 JD

Pittsburgh, Pa. (Originating office) — January 20, 1972 (Date of issuance)

To Samuel Jackson (Name) — Logan No. 2 (Mine)

B and J Coal Company (Company)

Singletree, Fayette County, Pa. (Location of mine) — R. D. 1, Singletree, Pa. (P.O. address of operator)

Notice is hereby given that the undersigned authorized representative of the United States Bureau of Mines, upon making an inspection of this mine on the 20th day of January 19 72, as authorized in Sec. 103 of the Federal Coal Mine Health and Safety Act of 1969 observed the above-mentioned person in violation of Secs. 317(c) and 109(a)(2) of the Act as follows: ☒ smoking or ☐ carrying smoking materials, matches, or lighters underground.

Location where violation was observed: In 2 butt left entry off 1 main at the entrance to No. 5 room.

Copy of Notice handed to Samuel Jackson at the entrance to No. 5 room 2 butt left 1 main immediately after the violation was observed.

Signed John Doe

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GPO 889-141

Form 317(c)

GENERAL INSTRUCTIONS FOR PREPARING COAL MINE SAFETY INSPECTION REPORTS

I. Mine Identification Number. Seven digit number sometimes referred to as the Respirable Dust number.

II. Type of Inspection. Regular Safety, 103(i) Spot, Spot Safety, Regular Health, Spot Health, Electrical, etc.

III. A space was not provided on the form to show what area of the mine the spot inspection was made in; therefore, immediately under the type of inspection, type in where the spot inspection was made. Do not use the words "Hazardous" or Nonhazardous" inspection.

IV. This Inspection. Name of Mine, Company and Location.

V. Previous Inspection. To be used only if there is a change in the name of the mine or company since the last inspection. If no change use the work "Same."

VI. Date(s). The date(s) of the previous inspection shall correspond to the type of inspection being reported. For example, if a Health Inspection is being reported, this date would be the date of the last Health Inspection; if a Safety Inspection is being reported, the date would be the date of the last Safety Inspection.

VII. Symbol. The number "1" means a mine inspected for the first time in the calendar year; "2" means the first reinspection. In other words, the mine has been inspected twice in the current calendar year.

A symbol is not required for spot inspections that are <u>not</u> made under the provisions of Section 103(i) of the Act.

The symbol for 103(i) inspections shall be determined in the same manner as on the regular inspection report. For example, 9 means that this is a mine in which nine 103(i) inspections have been conducted in the current calendar year.

VIII. Notices. Only the number of Notices issued, terminated and pending. Do not include the type of Notice and do not state "See attached Notices." The same applies to Orders.

IX. Frequency Rate. Indicate the year for which the information is provided.

a. "Industry" means Anthracite or Bituminous and Lignite.

b. "This Operation" means the mine or facility being inspected.

The national frequency rate for fatals is published monthly and for nonfatals yearly.

For the time being and until the new accident reporting system is on stream, the frequency rate for "This Operation" will have to be obtained from the mine operator, if available. If not, leave the spaces blank.

X. No distribution of inspection reports to mine management other than (a), (b), and (c) shall be shown on this Form.

XI. Principle Officer--Health and Safety. If you are unable to get a name this would indicate a violation of Section 107(d) exists. This is the person who is the responsible official in charge of Health and Safety at the mine. (See the following instructions).

The provisions of Section 107(d) require that each operator file the name and address of the person at each coal mine designated as the principal official in charge of health and safety at the mine. Further, where the mine is subject to the control of a person not directly involved in its daily operations, such as a person within the parent corporation, that person must also be official in charge at the mine shall be named to be responsible for the overall health and safety program for the owner for mines where the owner is not involved in their daily operations. For example, the president or vice president of a company may be the person who operates or controls the mine. The president or vice president will then name an official at each mine and designate him as the principal officer in charge at the mine. The president will designate a corporate official as the person responsible for overall health and safety. In this example, the names and addresses of three persons would be filed:

1. The president or vice president as the person who operates or controls the mine.

2. The corporate official designated for the owner in charge as the person responsible for overall health and safety.

3. The principal official in charge designated as the person with overall responsibility for the health and safety program at the mine.

Where the owner of the mine is directly involved in the daily mining operations he may serve in all three capacities if he so chooses.

The operator of every coal mine shall file with the Coal Mine Safety District Manager in the district in which the mine is located the name and address of the mine, the name and address of the person who operates or controls the mine and the name of the person in charge of or responsible for health and safety at the mine. Also, where applicable, the name of the corporate official responsible for overall health and safety.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Form 6-1377
(Dec. 1970)
Room 635
4015 Wilson Blvd.
Arlington, Va. 22203

I. Mine ID No. _____

Coal Mine Health and Safety District _____

II. COAL MINE _____ INSPECTION REPORT
III.

This report is based on a survey made pursuant to the Federal Coal Mine Health and Safety Act of 1969 (83 Stat. 742).

Originating Office:

IV. *This Inspection:*

Mine:

Company:

Location:

V. *Previous Inspection:*

Mine:

Company:

VI. Date(s):

Type and Number of Openings:

☐ Drifts ☐ Slopes ☐ Shafts

Type of Mine:

☐ Underground ☐ Strip ☐ Auger ☐ Other _____

VII. Symbol _____

Daily Production _____

Surface Employment _____

Underground Employment _____

No. of Active Section (s) _____

No. of Days for Inspection _____

Date(s) of Inspection:

_____

Name of Coalbed _____

Thickness of Coalbed _____

No. of Production Shifts _____

No. of Maintenance Shifts _____

Date Final Report Transmitted _____

VIII.	Notice(s)	Order(s)
No. Issued	_____	_____
No. Terminated	_____	_____
No. Pending	_____	_____

IX. Frequency Rate

19____

	Fatal	Nonfatal
Industry	_____	_____
This Operation	_____	_____

	Name	*Address*
X.(a) President	_____	_____
(b) Superintendent	_____	_____
(c) Safety Director	_____	_____
XI. Principal Officer--Health and Safety	_____	_____

_____

Labor Organization _____ District No. _____ Local Union No._____

Recording Secretary (Name and Address) _____

Union affiliation previous inspection _____ Is a mine safety committee maintained? ☐ Yes ☐ No

_____
Coal Mine Inspector

Time of preparation

Form 6-1377 shall be prepared as soon as possible after the inspection has been completed.

Use of Form 6-1377

This form is to be used for all types of inspection reports. The Form will be the first page, and all Notices and Orders shall be attached in proper sequence, with Tables 1, 2 and 3 following at the end of the report.

The report shall be assembled as follows:

1. Form 6-1377
2. Notices - in proper sequence
3. Orders - in proper sequence
4. Tables - 1, 2, 3, as appropriate

Symbols. Union affiliation is shown on the cover page; therefore, the letter A will no longer be required in the symbol. The number 1 means that a mine has been inspected one time in the calendar year; the number 2 means the mine has been inspected twice in the current calendar year. Simply use numbers for all mines. A symbol is not required for nonhazardous spot inspections. The symbol for hazardous spot inspections shall be determined in the same manner as on the regular inspection report. For example, the number 9 means that a total of nine hazardous spot inspections has been conducted in the current calendar year.

Supervising inspector accompanying a regular inspector. When a supervising inspector accompanies a regular inspector, only the name of the regular inspector shall appear on the cover page.

Inspector-in-training. When an inspector-in-training accompanies a regular inspector to learn proper inspection procedure, only the name of the regular inspector shall appear on the cover page.

Two or more inspectors together. When two or more regular inspectors are assigned to make a joint inspection, the name of each inspector shall appear on the cover page.

Change of mine name; procedure. If the name of the mine or the company has been changed between inspections, the former identification shall be typed directly beneath the heading "Previous Inspection."

Two copies of the finished report shall be given or sent to the inspector. One copy is for his own use, and the other shall be signed by him and returned to the headquarters office. By signing this copy, the inspector approves the report as typed; therefore, he must assure himself that the report is factually correct before he signs and returns the headquarters copy. Other copies of the report shall not be distributed until the signed copy has been received in the headquarters office. No acknowledgment is necessary.

TRANSMITTAL OF REPORTS

Transmittal letter. The following transmittal letter shall be used in transmitting all final coal mine safety inspection reports:

> "The enclosed report covers a Federal safety inspection of the above-named mine made pursuant to the Federal Coal Mine Health and Safety Act of 1969."

Directly under the salutation, the following information shall be recorded:

Subject: Coal Mine Safety Inspection Report

_____, _____ mine
_____ company
(location, town, county, state)
(by inspector)

A copy of the transmittal letter shall be attached to each copy of all final reports distributed. Carbon copy distribution shall not be shown on letters to outside agencies, nor on the copy sent to the Washington office.

DISTRIBUTION OF REPORTS

Final reports on regular and spot safety inspections of coal mines shall be distributed by the field office as follows:

	Copies
Company official	4
United Mine Workers of America (Member mines only) Safety Division - Room 401 1437 Eye Street, N.W., Washington, D.C. 20005	1
Welfare and Retirement Fund 907 - 15th Street, N.W., Washington, D.C. 20005	1
District Office (U.M.W.A. mines only)	2
Other Labor Organizations (Member mines only)	2
State Department of Mines	2
Assessment Officer Ballston Tower No. 3 - Room 635 4015 Wilson Boulevard, Arlington, Virginia 22203	1
Chief, Office of Accident Analysis Room 913, 4015 Wilson Boulevard, Arlington, Virginia 22203	1
Director Safety Research Center, Pittsburgh, Pennsylvania	1
Division of Mineral Resources Regional Office (an original inspection and on first inspection each year)	1
Geological Survey (mines on Indian land or the public domain) Washington Office, Room 3213, GSA Building	1
District Mining Supervisor	1
Regional Office, Department of Labor, as follows	1

Regional Administrator
Occupational Safety and Health Administration
U. S. Department of Labor
1375 Peachtree Street, N. E.
Suite 587
Atlanta, Georgia 30309

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